

YOUTH

CREATIVE EDUCATION AND THE FUTURE

By

OLIVE A. WHEELER, D.Sc.

THIS volume is a systematic attempt to apply recent discoveries in the biological and psychological sciences to the solution of modern educational and social problems.

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UNIVERSITY OF LONDON PRESS, LTD.

YOUTH

THE PSYCHOLOGY OF ADOLESCENCE AND ITS
BEARING ON THE REORGANIZATION OF
ADOLESCENT EDUCATION

BY

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"BERGSON AND EDUCATION," "ANTHROPOMORPHISM
AND SCIENCE."

WITH AN INTRODUCTION

BY

SIR W. HENRY HADOW, C.B.E., D.Mus., LL.D., D.Litt.

SECOND EDITION

NEW IMPRESSION

UNIVERSITY OF LONDON PRESS, LTD.

10 & 11 WARWICK LANE, LONDON. E.C.4

FIRST PRINTED . . . *November 1929*
SECOND EDITION . . . *March 1933*
Reprinted . . . November 1937

AGENTS OVERSEAS

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AND SOUTH SEA ISLANDS*

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PREFACE TO SECOND EDITION

THIS book is intended for two types of readers. Its review of the known scientific facts concerning the period of youth should meet the needs of parents, and voluntary workers, such as Sunday School teachers, Boy Scout and Girl Guide officers, who are concerned for the well-being of adolescents, and who are recognizing the necessity for a more exact understanding of the difficulties and developments characteristic of the period of adolescence.

In addition, the book surveys the educational problems that will need to be faced by those who are directly concerned in the task of reorganizing adolescent education—administrators, members of local education authorities, training college lecturers, and, particularly, the students and teachers who will be called to service in the various kinds of schools for adolescents now beginning to be differentiated. The publication of the Report on *The Education of the Adolescent* by the Consultative Committee of which Sir Henry Hadow was Chairman, and the subsequent interpretation by the Board of Education of the new policy of reorganization, has already led many Local Education Authorities to make important experi-

ments in differentiating post-primary education ; and although owing to the present national policy of economy in education the immediate prospect for the compulsory raising of the school-leaving age to fifteen is not bright, there has already been and there will continue to be a considerable extension of the provision for the education of adolescents. The chief responsibility for making this projected extension the occasion for a real improvement in the *quality* of education must necessarily rest with the teachers ; and the main objective of this book will have been reached, if it should prove to be of practical help in the solution of those internal problems of reorganization that accompany the outward administrative changes.

It is with pleasure that I acknowledge the help that I have received in this work from many teachers who have discussed their problems with me ; and from students of the University of Manchester and of Cardiff University College, who have co-operated whole-heartedly in the investigation concerning adolescence, on which some of the conclusions in the book are based. My thanks are also due to my friend and colleague, Professor William Phillips, M.A., for many helpful criticisms and suggestions ; and to Miss M. F. Howells, B.A., and Mrs. N. F. Thomas, M.A., for valuable aid in proof-correcting.

O. W.

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INTRODUCTION

BY SIR W. HENRY HADOW, C.B.E.

THE conception of England as an educated country has been slow in coming but it is on the way. One reason which delayed its arrival was, no doubt, a national self-complacence which held, often on imperfect evidence, that whatever was English was right. Another reason consequent upon the first was our extreme unwillingness to learn from anybody and especially from "foreigners." An Englishman, for instance, is by no means the worst of linguists but he shows to disadvantage abroad because every time that he makes a solecism he grows either angry or ashamed. More genial or less self-conscious people are content to laugh and learn better. Again, to take a more august instance: it is a matter of history that the first attempt to endow Education with a national subsidy (£20,000 for building school houses throughout the country) was vehemently opposed by William Cobbett on the ground that it was "French and doctrinaire," which means that a similar, though more generous measure, had recently been passed in Paris by Guizot. A third reason is one

the blame of which may be divided between practitioners and critics. A century ago the methods in English Education, outside of certain great names, were still rather perfunctory and were not based on any very adequate understanding of the pupil's mind : our schoolmasters, in short, were better at teaching Latin than at teaching John. The result was that the whole process of Education was still regarded as formal and reluctant : it was a common jest that all children hated school and a pedagogue was an almost invariable target for satire. Education was regarded as something external and artificial, the use of which to after life was not very apparent and with the practice of which it was quite possible to dispense. On both sides this condition of affairs has greatly improved. The methods of Education have received a widely and rapidly increasing amount of intelligent attention ; they are becoming more and more firmly based on the sympathetic understanding of the people who are being educated and *pari passu* their value is being more generously appreciated in the general scheme of social and cultivated life.

One truth which has emerged from our more careful psychological and physiological study of the basis on which Education should rest, is our fuller recognition that the life of children as a general rule exhibits certain periods of alternate growth or consolidation, an understanding of which is a

material help to those by whom our educational methods are to be applied. It does not follow that these periods are separated from one another "as by an axe," that they are separate and self-contained, and with little or no inter-relation. The whole process of life from infancy upwards is continual and the stages of its growth are closely interconnected: they resemble not the miscellaneous essays in a collection, but the consecutive chapters in a history. At the same time, because they are consecutive they are of necessity distinct, contributing, each in turn, its own share to the general development of the 'plot. Their frontiers are a little indeterminate—psychological age does not exactly correspond with age measured by years—still they substantially indicate a course of events in the growth of the child and of the adolescent, and the constituents of this course require their appropriate treatment and study. It is, for example, fairly well established that the first year of infancy is a period of rapid growth; that the ages from 1 to 5 represent, roughly, consolidation; that another period of growth follows from 5 to 7; another period of consolidation from 7 to 11; and that the wisest educational system is that which takes these differences into account with a broadminded sympathy which is neither pedantic enough to insist upon exact lines of demarcation nor shortsighted enough to ignore them.

Among these periods perhaps the most difficult and the most important is that of adolescence, beginning at the age of 11 or 12 and continuing through its sensitive years of physiological and psychological growth. The actual ages differ somewhat in boys and girls but not enough to prevent this subject from being treated as a whole. Its importance as a chapter in educational history cannot be over-estimated: the bodily experiences which it entails may have permanent effects upon the health and well-being of the adult in after life; the balance between the intellect and the emotions is now at a specially delicate poise; the sense of responsibility is growing both in strength and in significance; the child's subsequent welfare will very largely depend upon the right employment of these plastic and responsive years.

Hence the importance of such treatises as that of Professor Wheeler, which is here presented for study and discussion. Professor Wheeler has already made her name in the educational field: her work has aroused expectation which this new volume will go far to fulfil. She has read widely and thoughtfully; she has a definite point of view and she states her case with clearness and candour; she has founded her conclusions on a broad basis of ascertained facts—indeed, one of her chief contributions to the problem is a considerable amount of well-ordered information. Her fifteen

chapters cover, I think, the entire ground : at any rate they afford material and stimulation which the whole field of practice can turn to account. It is not to be supposed that all readers will agree with all the conclusions to which she comes. In a subject so wide and so complex there must be different angles of vision, different methods of interpretation, a different perspective of the proposals put forward. But she has always a good reason for the position which she maintains : she has had a wide experience of different types and methods of Education and she has a right to speak with authority on the difficult and complex question with which she is dealing. I have learnt a good deal from her book and I cordially commend it to all who are engaged in educational research.

CHAPTER I

INTRODUCTORY : •THE PRESENT POSITION

THE full significance of the recent demand for the expansion and reorganization of *adolescent* education can only be appreciated when it is viewed against the background of modern political and social movements, many of which, at least in their present form, appear to be the direct outcome of the Great European War. That war, like most others, was followed by a period of intense depression and discontent. Among our own people, the dissatisfaction with existing social and industrial conditions which was widespread even before the catastrophe, was deepened by the experience of war. Many workers who before 1914 had chafed in an industrial system which cramped and confined their real natures, and who in common war-service had realized possibilities of co-operation with members of other social groups hitherto undreamed of, came back expecting a new era and a better order of society. But they found instead the same cramping conditions, or worse—ill-health or unemployment—the

old difficulties being merely accentuated by trade depression and accumulated war-debts.

Progressive movements for improving social and industrial conditions, therefore, naturally gathered strength, and fair-minded men of all political parties now realize that the war has made it impossible for the old order to remain unchanged. Consequently, scheme and counter-scheme for the improvement of industrial conditions are being debated on all sides ; and these, whatever may be their respective merits or demerits, are at least indicative of a desire for change, a willingness to experiment, in short, a creative movement in human affairs. Already some modifications in political and international organizations have been enacted which are at least a partial expression of this movement. The extension of the franchise to women on the same terms as men by the passing of the Equal Franchise Act (1928), a change which was partially the outcome of the war, completes the skeleton of a political democracy in our own country. The great experiment of the League of Nations is perhaps the outstanding expression of the new élan towards more harmonious co-operation which seems to have been born of the agony of war.

The recent demand for the extension of the provision of education for adolescents is closely related to these post-war conditions and movements. Most ex-service men no longer expect an El

Dorado for themselves as a result of their sacrifices, but they look forward hopefully to a better world for their children. Increasing numbers of adults are determined that their children shall not only work under improved industrial and social conditions, but shall also have chances of development which they themselves missed. The difficulty of finding suitable work for their boys and girls, due to post-war conditions of unemployment, tends also to reinforce the claim for their continued education. Previously public opinion was beginning to lend its support to this claim on more general grounds than that of the present condition of unemployment amongst adults. It is, of course, true that until a nation has reabsorbed its ex-service men and found work for its employable adults, it cannot justifiably command the services of immature boys and girls. Consequently, if economic conditions allow, the present time would be an appropriate opportunity for the raising of the school-leaving age. But the temporary expediency of this change is not the real ground that justifies it.

An improved social order (no matter in what terms it is conceived) cannot be brought in by changes in external conditions and by political legislation alone, although these may be necessary. There must be a corresponding push *from the human end*, if the reform movement is not to be abortive. The individuals who will be called upon to work the new system must be so educated as to be able to

avail themselves of the new and improved conditions. The provision of harps, even of golden harps, would not make a heaven if the individuals to whose care they were entrusted had no musical ability and had received no musical education. Similarly, there can be no true democracy until men and women living under a democratic form of government are educated to exercise their own judgments on civic, social, national and international questions. Most of them at present can be manœuvred and played on by mountebanks at elections. They can be frightened by scares without foundations. They can be brought to heel by a slogan or a peroration. Before there can be a functioning democracy they must be better educated. And since *all* normal adults, both men and women, rich and poor, clever and dull, are being admitted to the full rights of citizenship in this country, they must all receive an education which will enable them to discharge their responsibilities without endangering the community. The old view—primary education for the poor, secondary for the middle-class and higher education for the rich—has not only proved itself to be a dismal and disastrous theory, but is obviously fundamentally inconsistent with a democratic order of society. The extension of the provision for adolescent education is, therefore, not a side issue but an essential part of the reform movement towards a functioning democracy.

The setting up of a League of Nations is also only one side of a reform movement. The League may *make* compacts, but whether these will be *kept* or not will depend, in the last resort, on the education of individuals. Are there sufficient individuals among the nations concerned, whose knowledge and understanding, whose tolerance and sportsmanlike fairness, whose hatred of war and determination for peace can be counted on in an emergency ? If so, the League will function ; but if not, it will be abortive, no matter how many or how imposing the signatories to its compacts.

The Church has frequently borne witness to this need for the salvation, in other words, the education of individuals. Even if all external conditions were suddenly righted, there would be no real advance unless there were a corresponding improvement in the outlook and behaviour of individuals. Education then should not be regarded as the Cinderella of the national services. It is rather the inner spiritual side, the reverse process of the outer reform movements. Indeed, education and political legislation must run in double harness if the chariot of the State is to have a safe journey. Let political legislation outrun education, and a disaster of the French Revolution type may result. Let it lag behind, and there may arise a situation like that in Ireland before it was granted political independence. The completion of the skeleton of

a political democracy in our own country should therefore be associated with such developments in education as will enable that democracy to function without disaster. The nature and needs of adolescents being what they are, one, if not the most important, of these developments should be the extension and reorganization of adolescent education.

NOTES ON FURTHER READING

Dr. L. P. Jacks' *From the Human End* (Williams & Norgate, 1918) and *A Living Universe* (Hodder & Stoughton, 1923) are collections of essays emphasizing the need in the evolution of human society for "the push from the human end." The second essay in *A Living Universe*, entitled "Civilization in a Living Universe," is a very illuminating statement of the fundamental importance of education in the growth of civilizations.

CHAPTER II

PSYCHOLOGY AND EDUCATION

It is more than a hundred years since that great educational reformer, Pestalozzi, expressed the desire to "psychologize" education. He realized that rule-of-thumb methods of teaching may not only fail to reach their objective, but may be positively harmful if they are not based on the laws that govern human development. The relatively late appearance of the biological and psychological sciences has, however, meant that the fulfilment of his wish is only now becoming possible through the accumulation of positive and tested knowledge of the springs of behaviour.

To-day it is little more than a truism to say that if a teacher is going to teach John Latin, he must know both the objects of the verb "teach," namely, John and Latin. In theory, at least, it is recognized that it is no more possible to teach John Latin without understanding John, his learning processes, his interests, and the laws and stages of his development, than it is to teach him Latin without knowing the Latin. There is, however, still a lingering belief

that a teacher may pick up his knowledge of John by haphazard methods without special study and training, just as it used to be thought possible to teach Latin by learning one chapter ahead of the pupils. In a certain number of cases this unscientific method may chance to be a success. There are apparently "born" teachers who do not need psychology, just as there are successful bone-setters whose insight into anatomy is largely unconscious. But this is no argument against the view that the modern arts of medicine and education depend on certain sciences, and that in general the practitioners should be aware of the scientific bases of their respective arts. Further, in education, as in medicine, the limit of improvement through the use of rule-of-thumb methods arrived at by individual tact has undoubtedly been reached, and further developments in the technique of education are coming through a more exact and scientific knowledge of the stages of human development and of the springs of behaviour that operate at each stage and in each individual. Already infant school workers have a highly developed technique of education due to systematic child study and to the concentration of their attention on the *individuals* being educated. On the other hand, University professors and lecturers are usually so occupied with their *subjects* of study that they tend to ignore educational methods as such. Somewhere between these two extremes

will be found most teachers at work in primary and secondary schools.

Although technical proficiency in the art seems thus to vary inversely with the stage of education, it is no exaggeration to say that the whole teaching profession is rapidly becoming aware of the need for the moulding of educational methods in accordance with the interests and natures of the individuals being educated. But even yet it has not been widely realized that educational problems of an administrative nature must also be looked at from this angle. The organization of education, both national and local, should be fashioned in accordance with the needs, interests, and abilities of the human beings for whose sake the system came into being. Administrators, Local Education Authorities, and even the Board of Education, in fact all who are concerned with creating, improving, or interpreting an educational policy, should keep at the centre of their thoughts the needs and natures of the individuals for whose sake the educational system is being devised. It is, of course, true that economic, historical and other factors have also to be taken into account, but these are far less likely to be overlooked than psychological factors. The coat must, indeed, be cut according to the cloth, but it must also be cut according to the would-be wearers. Merely to cut it according to the cloth, and then to find that it does not fit the stages of development

and the types of individuals for whom it was intended, would be to involve the nation in a form of expenditure which no economist could justify.

The movement for the extension and reorganization of adolescent education in this country, which followed on the publication of the Hadow Report in 1926¹ but which has unfortunately been slowed down by recent economy measures, furnishes a great opportunity for the psychologizing of a part of our educational organization. Enough is now known of the period of adolescence to justify the application of physiological and psychological knowledge to the solution of the relevant problems. Does the existing provision made for the education of adolescents fit their known natures and needs? If not, what modifications in provision, organization and methods will be necessary when the facts of adolescent psychology are brought to bear on the educational problems that relate to this stage of human life?

It is the purpose of this book to attempt to answer these and allied questions, but before applying the findings of modern psychology concerning adolescence to the appropriate range of educational

¹ Report of the Consultative Committee on The Education of the Adolescent: H.M. Stationery Office, 1926. See also Board of Education Circulars 1395 and 1397 (1928) and Educational Pamphlets, No. 60 (1928).

problems, it will be necessary to consider the relation that should exist between psychology and education, in order that some clear principle of selection of psychological facts may be devised which will guide their subsequent application. An applied science usually has its own distinctive methods, which are at least partially dependent on its special province. Educational psychology is no exception to this general rule; and it is important, at the outset, that the limitations of psychology should be explicitly realized, and the distinctive methods which the applied science can legitimately employ should be clearly conceived.

Psychology might be defined as the positive science of the springs of behaviour. It uses scientific methods—observation, experiment and statistical inquiries—to investigate different forms of behaviour; and it discovers regularities in, and explanations of, the varying types. The pure psychologist is not concerned with how people should behave, but rather with how they do behave under specified conditions. The consideration of *ideals* of conduct lies outside his province. He is not more concerned with the behaviour of saints than of sinners. Indeed, usually he finds the sinner more provocative of thought and consequently more interesting. *Qua* psychologist, he has no opinion as to whether individuals in a democratic community should be educated or not, whether this

or that habit should be acquired, or this or that subject be learned. He is concerned with what *is*, and not with what *ought to be*. But if the educationist decides that every normal individual in a democratic order of society must be educated to fulfil the duties of citizenship, the psychologist can give valuable advice as to the period of education and the methods to be used to obtain the desired results. Similarly, if the educationist decides that a certain form of behaviour should be encouraged, the psychologist can give information regarding the laws that govern such behaviour, which, rightly applied, will enable the desired objective to be more surely and more easily reached. It will thus be seen that in the *applied* science, ideals of conduct and the aims of education must be constantly considered, for it is these that govern the selection of the facts and laws that are relevant in any particular case.

The special functions of the *applied* science of educational psychology will also have their effects on the methods employed in its investigations. The educator is naturally more interested in the growth and development of an individual than in detailed analyses of one type of process, and although no such analyses should ever be ruled out of consideration; there will be a natural tendency in educational psychology to emphasize genetic and synthetic methods of study.

There are obviously two fairly sharply contrasted

approaches to the study of human personality. There is first the method of sympathetically following the development of an individual's experience as from within, appreciating its articulations, but never breaking its continuity. This might be termed the humanistic approach. In the main, it is the method employed by the novelist who unfolds the inner history of his characters, and whose descriptions are consequently full of warmth and intimacy. Galsworthy's *Forsyte Saga*, H. G. Wells' *Mr. Britling Sees it Through*, *The World of William Glissold* and *Mr. Blettsworthy on Rampole Island*, Hugh Walpole's *Jeremy*, and May Sinclair's *Arnold Waterlow* are outstanding modern examples of the method which found earlier successful exponents in Charlotte Brontë and George Eliot. The method is historical and genetic, the reader being led to understand the inner meaning of an experience by sympathetically living through that which led up to it. There is one obvious objection to the novelist's method, namely, that the people described may not be real people, and the experiences apprehended may not be real experiences, nor in their right setting. In short, there is no possibility of an objective test of accuracy.

The other method of approach—the analytic—does admit of such tests of accuracy and, indeed, of the general application of the ordinary methods of science. Some type of mental process, some

crosscut in the continuity of an individual's experience, may be singled out for special attention. It may be investigated with detachment and perhaps by experiment, and comparisons may be made between this experience and similar crosscuts in other individuals. The knowledge gained by these means must certainly be regarded as positive, and may very well be of great practical value. For example, the use of statistical and experimental methods in the investigation of colour-blindness has revealed the chief types that occur and certain regularities in their occurrence, as for example, which is the commonest kind, and what proportions of each of the two sexes suffer from the different defects of colour-vision. Such an investigation may be of practical use in the devising of tests for entrance to a form of employment which requires perfection of colour-vision. Intending engine drivers should obviously be tested for green-red colour-blindness, for red is a sign of danger which they should have no difficulty in recognizing.

One has only to contrast this analytic treatment with the historical method of dealing with an allied experience to be made to realize its serious limitations. For example, Kipling in *The Light that Failed* makes his reader understand the onset of blindness in the artist, Dick Heldar, by revealing it in its manifold relations to the ambitions, desires, and drives of conduct which had actuated the hero

previously. The crisis is apprehended in its distinctive setting, its nuances of meaning and its unique quality in the experience of Dick Heldar being grasped by the sympathetic understanding of the main currents of his inner life. Whatever practical value scientific investigations of isolated mental processes may have, it cannot be denied that in a sense the positive results are obtained by a reconstruction of actual experiences. Every experience is individual; it is part of a unique movement, a duration, an unfolding in time; and to break the continuity by considering one mental process out of its setting, thus separating it from its "before" and "after," is a device which may be practically useful, but may very well also be misleading.

The analytic method tends to emphasize the common elements in the behaviour of different individuals, and consequently to let slip the rich individuality of each person. It is this fact which accounts for the humanist's fear of the scientific approach to the study of human personality. "From all enumerations of the brethren," he prays in the person of Dr. L. P. Jacks, "from all that reduces them to an average or adds them up into a mass, from all statistics of the saved and the lost, from all Government returns of virtue and vice, from all that measures our happiness in solid blocks or weighs it in tons avoirdupois—good Lord

deliver us ; and help us to know each son of man not by his number but by his Name.”¹

Fortunately for education, some modern psychologists are beginning to realize that it is possible to combine the best of these two contrasted methods. The results of scientific analyses can be re-synthesized, and a genetic or historical method be superimposed on an analytic method, applied to real and not merely imagined experiences. As early as 1896, the French psychologist, Ribot, indicated the possibilities of the genetic method in the study of the emotional aspect of experience.² A later remarkable example of the advantages of combining scientific and humanistic approaches to the study of personality is Shand's great work *The Foundations of Character*.³ The new school of Individual Psychologists also consciously realize the need for syntheses as well as analyses of concrete individuals. The discovery of the life-line of an individual is regarded as supremely important, and increasing emphasis is therefore laid on dreams and day-dreams which may indicate the direction in which the life-movement of an individual is being thrown. "Individual psychology," says Adler, "by starting with the assumption of the unity of the individual attempts to obtain a picture of this unified personality regarded

¹ L. P. Jacks: *From the Human End*, 1918, p. 3.

² T. Ribot: *The Psychology of the Emotions*, Eng. tr., 1911.

³ A. F. Shand: *The Foundations of Character*, 1918.

as a variant of individual life-manifestations and forms of expression. The individual traits are then compared with one another, brought into a common plane and finally fused together to form a composite portrait that is in turn individualized."¹

It is this combined method which will give some insight into concrete individuals which should tend to be emphasized in educational psychology. Child study was its historical forerunner, but in the early days analyses were frequently obtained by prejudiced and untrained observers and without specified conditions. The newer educational psychology should have a higher standard of accuracy and more scientific methods for the discovery of its facts, but it should also emphasize the need for apprehending the continuity of each individual's experience and thus of grasping the individual as a whole. It should combine what is best of both the humanistic and scientific approaches to the study of human experience, its syntheses being based on analyses derived from careful observations and experiments, but so combined that there is no distortion of the "duration" or life-history of each individual.

¹ A. Adler · *The Practice and Theory of Individual Psychology*, p. 2.

NOTES ON FURTHER READING

In his book entitled *Psychology* (Home University Library, 1912) Professor W. McDougall gives a clear outline of the province, methods, and departments of psychology. The first chapter in his larger work *An Outline of Psychology* (Methuen, 1922) is a more technical exposition of the same theme. McDougall's general position that psychology is concerned with *subjective* experiences or the *springs* of behaviour contrasts somewhat sharply with the Behaviourists' view of psychology as a purely *objective* science of behaviour which finds one of its chief exponents in Dr. J. B. Watson, author of *Psychology from the Standpoint of a Behaviorist* (Philadelphia, Lippincott, 1924) and *Behavior: An Introduction to Comparative Psychology* (New York, Holt, 1914). The two protagonists have debated the issue publicly, and some of the heat of the debate is clearly reflected in the articles entitled "In Defence of Behaviourism" by J. B. Watson and "The Fundamentals of Psychology—A Reply to Dr. Watson" by W. McDougall, published in *Psyche*, July 1924.

Professor Thorndike's great work on *Educational Psychology* (New York, Teachers' College, Columbia University, 1910-1913) is probably the most exhaustive attempt yet made to outline the problems and define the province of the applied science of educational psychology. Professor G. H. Thomson's *Instinct, Intelligence, and Character: An Educational Psychology* (Allen and Unwin, 1925) and Dr. C. Fox's *Educational Psychology* (Kegan Paul, 1925) will also be found to be useful treatments of some of the outstanding problems of educational psychology. Professor T. P. Nunn's article on "Psychology and Education," in the *British Journal of Psychology*, March 1920, deals explicitly with the problem of the relation between the pure science of psychology and education.

CHAPTER III

THE CRITICAL NATURE OF ADOLESCENCE : SECONDARY EDUCATION FOR ALL ?

THE whole experience of a normal individual, from birth or even before it until death, is a continuity or duration. Viewed retrospectively, it may appear to be a succession of states, but it is so "profoundly animated with a common life" that "in reality no one of these states begins or ends but all extend into each other."¹ Although each human being's experience is thus individual and unique, there are common features to be distinguished in the life-histories of all normal individuals. There is, for example, a common periodicity. There are daily periods, with their alternations of activity and sleep ; weekly periods, with one day's rest in seven ; and longer seasonal periods. These are gross and obvious articulations, which tradition has clearly recognized and which therefore cannot easily be overlooked. But there are subtler periods of physical and mental growth, and it is inattention to these that sometimes makes our educational system woodenly inappro-

¹ H. Bergson : *An Introduction to Metaphysics*, tr. T. E. Hulme, 1913, pp. 9-10.

priate. That there is a common rhythm in the unfolding of the life-histories of individuals has been, generally recognized by novelists and dramatists, even when they have been more directly concerned with the uniqueness of the experience of each individual.

“ At first the infant,
Mewling and puking in the nurse’s arms.
And then the whining school-boy, with his satchel,
And shining morning face, creeping like snail
Unwillingly to school. And then the lover,
Sighing like furnace, with a woful ballad
Made to his mistress’ eye-brow. Then a soldier,
Full of strange oaths, and bearded like the pard,
Jealous in honour, sudden and quick in quarrel,
Seeking the bubble reputation
Even in the cannon’s mouth. And then the justice,
In fair round belly with good capon lin’d,
With eyes severe, and beard of formal cut
Full of wise saws and modern instances ;
And so he plays his part. The sixth age shifts
Into the lean and slipper’d pantaloon,
With spectacles on nose, and pouch on side ;
His youthful hose, well saved, a world too wide
For his shrunk shank ; and his big manly voice,
Turning again toward childish treble, pipes
And whistles in his sound. Last scene of all,
That ends this strange eventful history,
Is second childishness, and mere oblivion,—
Sans teeth, sans eyes, sans taste, sans everything.”

The mere facts of physical growth suggest very clearly certain common articulations in the development of normal individuals after birth. There is

first a period of very rapid growth as measured by average increases in height and weight during the first year of life; then a period of slower growth, extending to about five years of age; then a time of rapid development up to about seven, followed by a period of steady but less rapid growth to about eleven or twelve years of age. The next stage is marked by a considerable acceleration in the rate of growth, reaching its maximum in the case of girls at 13, and in the case of boys at 16, and afterwards slowing down until growth practically ceases in the early twenties.¹ The period from about 11 to 21 years of age is usually regarded as the period of youth or adolescence, the first half being characterized by very rapid growth and consequent instability, and the second being a sub-period of consolidation. Then comes the period of maturity, and finally the period of old age. Infancy, childhood, youth, maturity and old age—these are the common articulations of human life-histories, although the development of each individual is both unique and continuous.

The third of these periods, youth or adolescence, is recognized by novelists and psychologists alike as being critical in the life-history of an individual. In some cases, to which perhaps novelists have done

¹ Report British Association, 1883.

A. Greenwood: *The Health and Physique of School Children*, 1913.

H. A. Harris: Appendix II, *The Primary School*, 1931. H.M.S.O.

more than justice, it is a period of storm and stress. For example, Charlotte Brontë's study of Jane Eyre, while it cannot be regarded as in any sense a picture of a typical adolescent, is undoubtedly an illuminating description of the responses which an unstable adolescent might be expected to make to conditions and human relationships which were markedly unnatural. George Eliot's vivid picture of this growing-up period in the case of two adolescents with sharply contrasted temperaments, namely, Tom and Maggie Tulliver, is perhaps even more illuminating to educationists; for, while it emphasizes the critical nature of the period, it avoids any false assumption of uniformity.¹ May Sinclair's study of Arnold Waterlow, Hugh Walpole's stories of the sturdy Jeremy at Crale and of Peter Westcott in *Fortitude*, J. S. Mill's autobiographical account of the period and Van Druten's Young Woodley all bear witness to the truth that the period is one of risks and adventures.

However valuable to educationists these humanistic studies of the period may be, the more analytic investigations of psychologists are also necessary, if only to define the period more accurately, to reveal the experiences of *ordinary* as opposed to *unusual* adolescents and to emphasize the common elements in their development. Dr. G. Stanley Hall,² after

¹ George Eliot: *The Mill on the Floss*.

² G. S. Hall: *Adolescence*, 1904. Preface.

an extensive statistical investigation, draws the conclusion that, while late childhood under modern conditions of civilization is a period of almost complete adaptation to environment, and is possibly the counterpart of a time in the early history of the race when maturity was attained in these early years, adolescence is a period of transition when the forces and tendencies previously harmonized break up again and recombine. It is a new birth of higher and more completely human traits, the entrance of the individual into the larger life of the race. A similar view is adopted by Dr. J. W. Slaughter,¹ who is careful to point out that the length of the period of youth increases with advancing civilization and is one of the most characteristic differences between savage and civilized people. Dr. Phyllis Blanchard's² investigation of adolescent girls and Dr. Stanford Read's³ study of male adolescence likewise emphasize the critical nature of the period, which is characterized not only by rapid physical growth but also by the maturing of the sex organs.

In many respects, as Dr. Ernest Jones⁴ has shown, youth is more closely parallel to infancy than to the intervening period of childhood, which is relatively

¹ J. W. Slaughter: *The Adolescent*, 1911.

² P. Blanchard: *The Care of the Adolescent Girl*, 1921.

³ C. Stanford Read: *The Struggles of Male Adolescence*, 1928.

⁴ E. Jones: "Some Problems of Adolescence." *British Journal of Psychology*, July 1922.

stable and has some of the characteristics of maturity. It is a period of new adaptations and creative developments, and is therefore fraught with far-reaching consequences. It is not necessarily unhappy or tragic—indeed, some writers, notably Dr. Stanley Hall, have over-emphasized the “storm and stress” of the period—but it is critical in the sense that there is a new accession of creative energy which expresses itself in many ways, and which, rightly disciplined and controlled, will lead to full adaptation of the individual to his social and spiritual environment. Just as infancy may be regarded as the period for the adaptation of the individual to the physical universe, so adolescence reveals itself as pre-eminently the period of adaptation of the individual to society and to the spiritual universe.

The critical nature of adolescence constitutes the strongest argument in support of the view that a democratic community should make provision for some kind of secondary education for all boys and girls. The old policy—primary education for the poor and secondary education for the middle-class—has almost disappeared; and its successor—primary education for all and secondary education for the clever—is being undermined by the increasing understanding of the nature and changes of adolescence. It is not only the clever boy or girl who needs guidance in this most critical growing-up period:

the dangers of instability and the difficulties in self-control are as great, if not greater, in the case of less academically minded adolescents. To pitchfork these into industrial and often into blind alley occupations, before they have gained control of their newly acquired instincts, is to court disaster, both for the individuals themselves and for the society of which they will become responsible citizens. Child labour is almost inconceivable to this generation. Future generations will perhaps find it equally difficult to justify the present practice of sending into the labour market, in many cases without any adequate system of apprenticeship, fourteen-year-old adolescents, who in some respects are further removed from maturity than are ten-year-old children.

The only policy that meets the psychological facts is that of primary education for all *children*, and secondary education for all *adolescents*, at least during the time of greatest instability. The second half of this policy is perhaps even more necessary than the first, because of the greater needs of adolescents and the greater chances of growth. But in any case to adopt only the first half is false economy. It is as though a gardener were to tend his plants until the buds appear only to pluck them up by the roots in order to avoid the additional expense that would be involved in continuing their cultivation to the fruit-bearing stage. It is "spoiling the ship for a ha'p'orth of tar." It is a

case of killing the goose before it lays the golden egg.

It would be idle to suppose that the modern movement for the continued education of adolescents in our own country is the direct outcome of any clear realization of the critical nature of the period. The provision for part-time continued education in the Education Act of 1918, and the subsequent movement for increased secondary school accommodation, for the provision of Central and Senior schools and for the raising of the school-leaving age, were due more to a growing faith in education than to purely psychological considerations. Perhaps the Consultative Committee who reported on the Education of the Adolescent in 1926¹ were to some extent influenced by the views of psychologists, but they were probably much more impressed by the evidence of practical teachers concerning the incompleteness of the educational process, and the futility of the "marking of time" in primary schools by scholars who fail to gain entrance into secondary schools. Yet the insistence in the Hadow Report² on the necessity for raising the school-leaving age to 15 and providing different types of secondary education to meet varying needs, and on the desirability of a "clean cut" in the educational system at 11 and an "end-on" rela-

¹ The Education of the Adolescent, H.M.S.O., 1926.

² *Ibid.*

tionship between primary and all forms of secondary education can be justified on psychological grounds.

Many Local Education Authorities have already gone a long way towards planning a reorganization of educational facilities in accordance with the findings of the Hadow Report as interpreted by the Board of Education in *The New Prospect in Education*.¹ Even with this definite lead from the Board of Education it appears to be perilously easy for the reorganization to be a mere reshuffling of scholars and teachers and for the opportunity for adjusting education to meet the needs of adolescents to be consequently missed. Much hard thinking will need to be done if the reorganization is to be effective. Unintelligent participation in the scheme by primary or secondary school teachers, or by administrators, or by authorities responsible for the training of teachers may easily render it abortive. It is, of course, true that Government regulations and local conditions will to some extent determine the solution of the problem in any area, but there should also be a clearly thought-out policy of what is desirable for the human beings concerned. To this end it will be necessary for both administrators and teachers to study the main lines of development characteristic of the period of

¹ Board of Education Educational Pamphlets, No. 60 (1928), H.M.S.O.

adolescence, and to consider the different varieties of adolescents for whom provision should be made, in order that they may co-operate in the great task of reorganization.

NOTES ON FURTHER READING

Hugh Walpole's study of the development of Peter Westcott in *Fortitude* (Martin Secker, 1913) and H. G. Wells' story of *Kipps* (Nelson's Library) are typical modern examples of the recognition by novelists of the creative nature of the period of youth. J. S. Mill's *Autobiography* and Edmund Gosse's autobiographical account of his own development in *Father and Son* also give support to the view that the period is critical in the life-histories of individuals.

R. H. Tawney's *Secondary Education for All* (London, The Labour Party, 1922) is an enthusiastic statement of the case for continued education for all adolescents. The Report of the Consultative Committee on *The Education of the Adolescent* (H.M.S.O., 1926) considers the evidence for extending the provision for the education of adolescents and makes definite recommendations concerning general policy and for the solution of the practical problems of reorganization.

CHAPTER IV

THE MAIN LINES OF DEVELOPMENT DURING ADOLESCENCE

A. PHYSICAL CHANGES

THE period of youth is a period of rapid physical growth. The body may increase in weight and height to such an extent that its control may be rendered temporarily more difficult, and the individual may pass through a hobbledehoy stage. This is more marked in the case of boys than of girls and generally occurs in the middle of the period. The smaller body of childhood may have been perfectly controlled, but its increased bulk during the first half of adolescence and the rapid development of the muscular system may result in a certain temporary awkwardness and an inability to make refined and accurate movements. It is at this stage that the boy objects to being asked to help in the serving of afternoon tea. He hardly knows what to do with his long limbs and is therefore shy about appearing in public to do anything involving small and precise bodily adjustments. He needs time and practice to regain control of his greatly increased bulk of body.

Certain parts of his body may develop disproportionately and increase his difficulties. For example, the characteristic "breaking" of the voice is due to such rapid growth of the vocal apparatus that its control is temporarily ineffective. The boy, therefore, is uncertain as to whether he is going to begin to speak high or low, loud or soft ; and there is need for a period of readjustment before there can be the full utilization of his increased vocal powers.

The most fundamental change round which all the other developments seem to revolve is the maturing of the sex organs. Practically all the glandular secretions are affected, and it is no exaggeration to say that in the case of boys and still more in the case of girls the whole metabolism of the body is thereby modified. The physical condition of the sex organs, especially in the case of boys, may also bring new difficulties of control.

These profound and relatively rapid physiological changes during adolescence increase the liability of the individual to certain minor defects and diseases. In the case of girls, the fact that the calcium metabolism of the body becomes unstable means an increased danger of anæmia, spinal curvature and certain nervous disturbances. The magnitude of this danger is revealed by recent reports on the health of secondary school pupils. For example, Sir W. Hamer's recent investigations on some 2,000 London secondary school girls yielded the

astounding figures that 7·8 per cent. suffered from anæmia and 16·7 per cent. from spinal curvature; 7·1 per cent. had flat feet and 15·2 per cent. wore spectacles.¹ The fact that there was an increase in the proportion of defects from 12 to 15 years of age and that the proportion was higher than for the corresponding age-group of elementary school girls suggests that we have not yet succeeded in adjusting secondary education to the physical needs of girlhood. In the case of boys there is an increased liability to certain kinds of lung and heart trouble, but the dangers of physical strain do not seem to be nearly so great as with girls. According to Sir W. Hamer the proportion of both boys and girls with defective eyesight increases from the lower forms to the middle forms of secondary schools. This increased liability to defects and ailments is of course only the backwash of a wave of development which in the majority of cases leads without difficulty to increased size and power and to full physiological maturity; but it is surely not without significance in the formulation of a policy for the extension and reorganization of adolescent education.

B. MENTAL CHANGES

Connected with, though in some cases apparently antecedent to, these physical changes there are

¹ *The Health of the School Child* (Report of Chief Medical Officer of Board of Education for 1921), published 1922, p. 32.

also mental developments. Dr. G. Stanley Hall records that among 200 people of note whose biographies were examined by Lancaster there were 120 who developed a craze for reading during adolescence, 109 who became great lovers of Nature, 58 who took to writing poetry, and 46 who developed scientific interests.¹

In enumerating the traits characteristic of puberty Dr. Hall mentions several which must be regarded as intellectual developments. For example, in addition to increased sensibility of touch, taste, smell, hearing, and sight,² he affirms that there are new powers of imagination, and of inner absorption and reverie, and that there are noticeable tendencies towards the enlargement of vocabularies.³ There is also a new spirit of inquiry and a new interest in Nature and Religion.⁴

It is at present difficult, if not impossible, to determine whether the expansion of mental powers as indicated by the appearance of new intellectual interests means an increase of *general* intelligence or only the canalizing of energy along new lines of interest. Dr. Ballard has recently put forward the view that the extensive application of mental tests does not reveal any sudden development of *general* ability but only the development of specific

¹ G. S. Hall, *Adolescence*, 1904, ch. viii.

² *Ibid.*, ch. ix.

³ *Ibid.*, ch. iv.

⁴ *Ibid.*, ch. xii and xv.

abilities.¹ According to him the curve of development is "smooth and continuous. There is no break anywhere; no plateau, no steep ascent, no sudden change of direction." It should, however, be remembered that most of the mental tests in common use, for example, the Binet-Simon and Stanford revision tests, have been standardized by their application to large numbers of children of the various age-groups. The tests for each age are therefore relative to the average for that age, and the curve of development arrived at by the application of such standardized tests would necessarily be smooth and continuous. Suppose for the sake of argument that on an average there were a sudden development of *general* ability at 14, the tests for 14 would be correspondingly difficult; for those first invented would have been modified and their difficulty increased, until they were appropriate to the average of a large number of children of 14. The application of mental tests standardized in this way tells us nothing as to whether the increase in intelligence between 13 and 14 is equal to, greater, or less than, that between 9 and 10. It throws no light on the problem of the rate of development up to the age of 16. Indeed, the only conclusion which can justifiably be drawn at present from the use of

¹ P. B. Ballard, *The Psychological Aspect of the Break at 11 Years of Age*. Report of Seventeenth Conference of Educational Associations, 1929.

mental tests is that, on an average, growth of general intelligence practically ceases at 16. This one conclusion, about which there is general agreement among psychologists, is however most significant ; for it indicates that the first half of adolescence sees { the maturing of general intelligence as well as of physiological functions and is therefore as critical to the development of the intellect as it is to the growth of the body.

Whether there is any increase in the rate of development of *general* intelligence during early adolescence or not, there are certainly new intellectual interests and either new or intensified emotional experiences. With a view to obtaining statistical evidence with regard to these changes a questionnaire was carefully formulated, which was answered by groups of volunteers under controlled conditions. The volunteers understood that the answering of the questions would be a valuable preliminary to their subsequent study of adolescence. They were allowed to substitute initials or pseudonyms for their names if they so desired ; and were asked to be as accurate as possible and to leave out any question which they could not answer truthfully. They wrote their answers under examination conditions, that is, without discussion ; but without any time limit.

The following was the questionnaire :

ADOLESCENCE

NOTE.—Adolescence can be interpreted to mean the period from about 11 or 12 to about 20 or 21 years of age.

A. Particulars to be filled in below :

Name or Initials. Nationality

Age. Sex.

Home conditions during Adolescence (i.e. whether parents were living, number of brothers and sisters, etc.)
.....

Secondary School (Girls', Boys', or Mixed) (with rough dates)
.....

Post-School Occupation (with rough dates).
.....

B. Questions (to be answered on examination paper and attached) :

Indicate any developments in intellectual interests which occurred DURING ADOLESCENCE. For example, what were your favourite occupations and your favourite subjects of study ? Account as far as possible for your preference.

2. Do you remember having systematic day dreams (a) during childhood, and (b) during adolescence ? If so, of what kind ? Do they still continue ?
3. Can you remember any differences in your appreciation of nature, music, art and poetry DURING CHILDHOOD and ADOLESCENCE ?
4. Describe briefly the kind of religious training that you received DURING CHILDHOOD and ADOLESCENCE.
5. What kind of religious experiences (if any) did you have (a) during childhood, and (b) during adolescence ?
6. Did you experience "conversion" ? If so, when ? What form did it take ?

7. Did you experience doubts (*a*) before, and (*b*) after conversion ?
If so, of what kind ?
8. Were you interested in the opposite sex during adolescence ?
In particular, did you fall in love (*a*) with anyone much older than yourself, and (*b*) with someone of your own age ? If so, when ?
9. Did you make life-long friends at this period ?
10. Did you hero-worship someone of your own sex ?
11. Were you curious concerning the facts of life (*a*) during childhood, and (*b*) during adolescence ? Was your curiosity satisfied ? If so, from what source ?

These questions were answered by groups of University students and also by W.E.A. students engaged in full-time manual and other occupations. The replies of University students, almost all of whom had passed through secondary schools of some type or other, will be first considered. This group consisted of 100 men and 100 women drawn mainly from the University of Manchester in 1924 and 1925 and from Cardiff University College in 1927 and 1928, but including also a small group of representatives of other Universities who attended the Brighton Summer School in Psychology and Education in 1923. The majority of these were graduates who had led rather sheltered lives during adolescence. There were, however, some who had had post-school occupations before joining the University, notably a group of ex-service men who are included in the numbers.

The answers to questions 1, 2, 3, 5, 8, 9, 10, and 11 are given in a classified form below :

TABLE I

Group of Students from English Universities, 135 ; from University of Wales, 65 ; consisting of 100 men and 100 women.

		Per cent
Q. 1.	Number who mention as a <i>favourite occupation</i> .	
	Reading	97 48.5
	Reading novels and biographies	14 7
	Games	67 33.5
	Outdoor activities (e.g. walking, cycling, gardening, scouting, etc.)	52 26
	Arts and Crafts (e.g. carpentry, needle-work, drawing, music, etc.)	70 35
	Writing poetry	12 6
	Number who mention as a <i>favourite subject of study</i> :	
	Literature	88 44
	History (including politics)	48 24
	Mathematics	62 31
	Science	66 33
	Geography	20 10
	Theology or Philosophy	13 6.5
Q. 2.	Number who record systematic day dreams in adolescence	128 64
Q. 3.	Number who claim an increase in appreciation during adolescence in respect to :	
	Nature	109 54.5
	Music	118 59
	Art	85 42.5
	Poetry	126 63

Q. 5. Number who claim to have had real <i>religious</i> <i>experiences</i> :		Per cent.
(a) in childhood	17	8.5
(b) in adolescence	123	61.5
Q. 8. Number who were interested in the opposite sex during adolescence	167	83.5
Number who fell in love during the period .	110	55
Q. 9. Number who record important friendships	147	73.5
Q. 10. Number who hero-worshipped someone of own sex	101	50.5
Q. 11. Number who were curious concerning the facts of life :		
(a) in childhood	48	24
(b) in adolescence	146	73

The replies give some indication of the general lines of development characteristic of the period, at least in the case of "intellectuals."

Intellectual Developments—The answers to the first question show that some kind of intellectual awakening is usual, although it may take different forms in different individuals. Quite a number of students recorded a new passion for reading and a *general* increase in academic interests. About one-third developed interests which might be termed broadly scientific; they became absorbed in the study of mathematics, the physical or biological sciences and/or geography. Apparently there is an increased power of abstract thought which shows itself in an appreciation of scientific method, and in a few cases in the study of philosophical and theo-

logical questions. In a great number of cases there are new humanistic interests, which may take the form of a greater love of literature, a new interest in novels and biographies as "human documents," and/or an added interest in history and politics.

It is significant, however, that a high proportion of "intellectuals" do not find their greatest joy during adolescence in purely intellectual pursuits, but in games, outdoor activities, and in more practical occupations. More than one half mentioned as their favourite occupations either games or such outdoor activities as tramping, cycling, farming, and gardening, in which mind and body are both exercised: in addition some 35 per cent. mentioned some form of handwork such as carving, carpentry, photography, drawing, painting, playing the piano, needlework, domestic work and "pottering with mechanical things." Putting these two facts together it is surely safe to conclude that the majority of adolescent intellectuals find their greatest joy in work or play in which the growing mind and the growing body are exercised concurrently.

Emotional Developments.—The emotional developments characteristic of the period of youth are perhaps even more far-reaching in their effects than the intellectual developments. Dr. Stanley Hall recognized this truth from his investigations. The developments which seemed to him to be most

central were the awakening of sex interests,¹ the intensification of feelings towards Nature,² an increase of self-consciousness and of social feelings,³ and the appearance of religious emotions.⁴

The awakened interest in the opposite sex in 83.5 per cent. of the cases who answered the above questionnaire shows that the rise or intensification of the sexual emotion is natural to the period. Many confessed to "falling in and out of love" continuously during the period. There was one man, for example, who "had lost count"; and another, from a boys' secondary school, who declared, "There was some sort of competition between us as to who should do best in this respect." A number (37) fell in love first with someone much older than themselves, who acted as a kind of mediator in the transition from the love of parents to the love of a possible mate. A curate, a minister, a conductor of an orchestra, an actor, a school-master, and a music mistress figured as temporary aids to development in this direction. Frequently there was a period of withdrawal after the first period of attraction to the opposite sex and before the individual fell seriously in love. This period of withdrawal, well described by one man as a time when he developed "a healthy contempt for girls," serves the useful purpose of giving the individual

¹ G. S. Hall, *Adolescence*, 1904. ch. xi.

² *Ibid.*, ch. xii.

³ *Ibid.*, ch. xv.

⁴ *Ibid.*, ch. xiv.

time to gain control of the newly awakened sex emotion.

It is obvious that new controls will be necessary after the appearance of such a powerful emotion. At an earlier period, the organization of the emotions may have been so complete and unified that control of any passing impulse was relatively easy: but the appearance of a new emotion like that of sex naturally upsets the balance previously attained, shatters the earlier organization, and makes it necessary for new controls to be developed. To deny the naturalness of the appearance of the new emotion hardly helps in the solution of the problem of its right control. Indeed, the ostrich-like policy of some educationists in regard to one of the most fundamental developments of adolescence is not only unintelligent, but is positively dangerous.

The increased interest in the opposite sex is, of course, only one of many related changes; and it is equally important that it should neither be ignored nor, on the other hand, be taken out of its setting. The period which sees the rise of the sex interest is also characterized by the making of important friendships, a tendency to hero-worship, an intense loyalty to the school or college or other group with which the individual is associated, and a sympathy with those who are less fortunate in human society; in short, by the appearance of new or intensified social emotions other than those of sex. The

individual tends to become concerned with the problem of his vocation and his possible service to society: his ambitions become more definite and there naturally results a heightened sense of self as well as a new interest in social and political problems.

In addition, in the majority of cases, there are new religious experiences and intensified æsthetic emotions. Although only 8·5 per cent. of the students who answered the questionnaire claimed to have had real religious experiences in childhood, 61·5 per cent. believed that during adolescence they either experienced "conversion" or such an intensification of religious feeling that some sort of new orientation to the spiritual universe became necessary. It is true that towards the end of the period many were assailed by doubts and became extremely critical of the emotionalism of the earlier period; but the alternation between the strong religious feeling of the first stage and the critical attitude of mind of the second appeared to effect some sort of consolidation or "settling down" of the whole character.

Closely related to this religious awakening is the new or heightened appreciation of Nature, Music, Art and Poetry. With only a single exception, all who answered the questions recorded some increase in appreciation of one of the arts during the period, an indication of the development of subtler æsthetic emotions. The great majority found a new delight in Nature: landscapes began to mean more to

them; the beauty of natural objects to make a stronger appeal. Some for the first time pierced the screen of outward natural phenomena and felt "a presence that disturbed them with the joy of elevated thoughts."

The full significance of these emotional changes only becomes apparent when they are viewed in the light of recent discoveries concerning the foundations of character. The work of Ribot, McDougall and Shand has now resulted in the general acceptance among psychologists of the theory that the roots of a man's character lie in his feelings, or, more strictly, in his emotional dispositions. It is, of course, true that his beliefs and thoughts, his actions and habits play their part in its formation; but deepest down and most central of all are his sentiments, his tendencies to feel certain emotions towards certain objects under certain conditions.

In essence this is the view of character that was held by St. Paul.

"Though I have the gift of prophecy, and understand all mysteries, and all knowledge; and though I have all faith so that I could remove mountains, and have not charity, I am nothing."

Translating this paragraph into modern psychological terminology, it might run:

Though my knowledge is complete, and all my

cognitions and beliefs are true, though I see all the universe in its proper proportions, yet if my feelings are not what they should be, my character has no absolute worth.

“And though I bestow all my goods to feed the poor, and though I give my body to be burned, and have not charity, it profiteth me nothing.”

Again paraphrasing into modern psychological terms :

Though my actions are all that could be desired, and my habits are perfect, yet if they do not issue from right feelings, my character has no absolute worth.

Putting these two statements together, there is implied a general view of the nature of the foundations of character. A man's beliefs and actions may play their part in its formation ; but most central of all, most at the root, lie his feelings. If charity is his master-sentiment, all is well with his character ; if it is not, there is a canker at the root, which eventually will affect the other aspects of experience which are less fundamental.

If this view of the foundations of character be true, then the emotional changes natural to adolescence constitute a unique opportunity for character training. The rise of the sexual and social emotions

delivers the individual, at least momentarily, from the egoism of childhood. The intensification of the æsthetic and religious emotions makes him more fully aware than ever before of the other spiritual forces that are at work in the universe. The call of the Infinite is more compelling and more insistent. The balance between the existing emotional systems is disturbed. The domination of self-love, the master-sentiment of childhood, is threatened by the appearance of new emotions, and the consequent growth of social and religious sentiments.

Youth, then, is the period characterized by the socializing of the self and the re-direction of the life-energy away from self and towards the larger whole, of which the individual is a part. It is the time when normally there should be the *outward* orientation of the feelings. It may be marked by disturbance and conflict; but, in most cases, the resulting development is so fundamental that it constitutes in a very real sense the re-birth of the personality.

NOTES ON FURTHER READING

Dr. J. W. Slaughter's short study entitled *The Adolescent* (Allen & Unwin, 1911) gives a clear idea of the main changes characteristic of the period of youth. Dr. G. S. Hall's long-continued investigations described in his classic work entitled *Adolescence* (Appleton, 2 vols., 1904) are the chief source of the data on which Dr. Slaughter's rough generalizations rest. Dr. Hall's first volume deals mainly with the Pathology of Adolescence; but his second volume, and particularly the chapters on "Adolescent Love"

(Chapter 11), "Adolescent Feelings towards Nature" (Chapter 12), "Social Instincts and Institutions" (Chapter 15) and "Intellectual Developments and Education" (Chapter 16) have a more direct bearing on the education of normal adolescents.

Mr. A. F. Shand's great work entitled *The Foundations of Character* (Macmillan, 1914), although it makes no mention of adolescence, enables its reader to understand the full significance of the period in the growth of sentiments, and therefore of character.

CHAPTER V

THE MEANING OF SECONDARY EDUCATION

THE recent movement for the reorganization of adolescent education was singularly fortunate in that it arose at a time when there was a growing revolt against a narrowly intellectualistic view of education among many educational workers in different parts of the educational field. It is being increasingly realized that education is not synonymous with book-learning, any more than it is with vocational training. It is, of course, true that every normal individual should be trained to do some useful work which might enable him to earn a livelihood, and that he should develop such intellectual powers as he possesses. But the earning of a livelihood and the processes of thinking are not the whole of a man's life. They are only part of the difficult and heroic art of living. "I am come," said the greatest of all teachers, "that they might have life, and that they might have it more abundantly." Not more proficiency in earning a livelihood, not more knowledge, not even more intelligence, but more abundant life—that is the supreme aim of education.

In interpreting this aim it should be remembered that human experience in general, and the great Christian witness in particular, has shown that abundant life comes to the individual through obedience to the paradoxical law that "whosoever will lose his life, the same shall save it." An individual does not live abundantly through selfish concentration on the development of his own powers. Health, poise, joy, the marks of abundant life, are found where there is forgetfulness of self. Indeed, the individual only attains abundant life through service to his fellows and devotion to the purposes of the spiritual universe of which he conceives himself to be a member. It is in adolescence that abundant life in this sense first becomes possible. The chrysalis stage of self-centred childhood is past, and there is such a great accession of life energy to the individual that new powers are developed and flights into new realms of experience become possible. If the environmental conditions are appropriate, the creative forces at work within the individual will express themselves not only in physical and mental growth, but also in social and spiritual adjustments. *Secondary* education should, then, provide for these many-sided developments characteristic of youth. The matriculation requirements of Universities, which in many cases are relics of an over-intellectualistic tradition, should no longer be allowed to dominate the training given to adoles-

cents, many of whom will not proceed to Universities, and all of whom will need something more than academic training to acquire skill in the difficult and heroic art of living. Education is not the pouring in, or the hammering in, of knowledge : it

“ Rather consists in opening out a way
Whence the imprisoned splendour may escape
Than in effecting entry for a light
Supposed to be without.”¹

Primary education is the opening out of ways in which the powers of children may express themselves; and *secondary* education must be similarly adjusted to, and determined by, the needs and creative developments of adolescents.

The consideration in the last chapter of the main lines of development during adolescence has revealed the need for careful provision for physical education during this period. Games and outdoor occupations are not only enjoyed by the majority of adolescents, even of the more intellectual type, but they are necessary if the individual is to be trained to live abundantly. The increase in the attention paid to physical education and games in secondary schools has been very marked in this country in the last two or three decades ; but even now the reports of Medical Officers on the health of secondary-school pupils suggest that all-round development is being hindered by excessive

¹ Browning *Paracelsus*

attention to academic studies, at least in the case of girls. The need for rest, as well as games and physical exercise, is only imperfectly realized at present, and the homework set in secondary schools is often such as to lead to overstrain and exhaustion. Many parents are seriously concerned about this, for they realize that academic success may be purchased at too great a price if it means impaired vitality for years, or perhaps even for life. It is not only bodily health that suffers from such overstrain during adolescence. Sometimes students come up to the University with good Higher Certificates but showing signs of mental exhaustion. Their originality and vigour of mind have been adversely affected; their earlier zest in intellectual work has largely disappeared, and their mental powers seem to have wilted from early forcing. The recent investigations of the Industrial Fatigue Research Board on hours of labour and output of work should make even those educationists who regard examination successes as supremely important pause to consider the possible effects of a long working day for secondary-school pupils. If operatives working 51 hours a week have a larger output than others on the same class of work working 66 hours a week,¹ it seems not unlikely that excessive homework, and therefore too long a working day for adolescents, may result in a decrease

¹ C. S. Myers: *Applications of Psychology*, 1919, p. 15.

in the *quantity* of work accomplished. In any case, the *quality* of intellectual work done in a 9 or 10 hours working day (which seems to be expected of some secondary-school pupils) is bound to be of an inferior kind. In their wisdom, most adult intellectual workers limit their working day so that originality and cogency do not suffer. Such restraint can hardly be expected of the adolescent, certainly not of the adolescent girl. One of the first duties of her teachers, with their greater knowledge of the laws which govern mental efficiency and physical growth, should therefore be to give her a clear lead against excessive homework; but in actual practice, subject specialists are often the greatest sinners in encouraging her to break the laws of healthy harmonious development of body, mind and character.

Not only is there need for proper rest and physical exercise during this time of rapid development of body, there is also need for the *joint* exercise of mind and body. It will be remembered that a large proportion even of "intellectuals" find their greatest joy during adolescence in some practical occupation or in the pursuit of some art or craft.¹ This fact suggests that the proper balance has not yet been found in the ordinary grammar school between the two great media of education, speech or language on the one hand, and the handicrafts on the other.

¹ See p. 39.

In the past, books and languages (ancient and modern) have occupied the first place in the discipline of the secondary school. Indeed, the tongue has been an "unruly member" in the educational system generally, and consequently the hand has not been such an important instrument for mental development as it might have been. There are signs that the educational value of creative work with the hands is being realized in infant and elementary schools, and there have already been some striking experiments in this direction in the new Central and Senior schools, but there is still a reluctance among some secondary-school teachers to acknowledge the intellectual respectability of the crafts. Although the dullards are sent to the art studio, the manual room, or the domestic-science kitchen, the more intelligent boys and girls are frequently denied that *joint* exercise of mind and body which they would most enjoy during a period of rapid physical development. To this extent, secondary-school education is not yet emancipated from slavery to the printing press. A clever boy who is being made to study English, French, Latin, Greek and Mathematics, and who does no practical science or handwork, is being treated as though his mind functioned *in vacuo* and not in a growing body. Yet this happens in some secondary schools where there is still a lingering, though unexamined, belief that work with the hands, even creative work, has

not sufficient intellectual respectability to justify the spending of time upon it.

There have always been some thinkers, from the time of the writer of Ecclesiasticus until to-day, who have contrasted work with the hands and work with the head to the disadvantage of the former. "The wisdom of a learned man cometh by opportunity of leisure: and he that hath little business shall become wise. How can he get wisdom that holdeth the plough, and that glorieth in the goad, that driveth oxen, and is occupied in their labours, and whose talk is of bullocks?"¹

Recent psychological analyses have, however, given support to the opposing view, which has also always had its supporters, namely, that the acquiring and use of skill may bring wisdom. The researches of Professor Pear,² for example, have cast doubt on the earlier view that the development of skill does not involve higher thought processes. The acquiring of some proficiency even in a game, such as golf, is not entirely a matter of trial and error, but is aided by analytic thought and the grasping of certain abstract principles. The contrast between the acquiring of skill and the acquiring of knowledge must therefore not be made too sharp. In any case, the intellectual value of an occupation is not to be measured by the mental processes involved

¹ Ecclesiasticus xxxviii, 24 and 25.

² T. H. Pear: *Skill in Work and Play*, 1924

in doing it mechanically. It may be related to a whole circle of interests and ideas, and its pursuit may therefore reveal some new meaning of the Universe and be critically important in the development of an adequate philosophy of life. Who would venture to affirm to-day that the man who can spell "onions" and cannot grow them, is wiser than he who can grow them but cannot spell them? The chances are all the other way; for the practice of the craft of gardening gives many opportunities for reflection on the wonders of growth and the meaning of life, and may bring wisdom and understanding.

The value of the arts and crafts in the education of the adolescent can never be truly assessed by considering only their intellectual possibilities. Their appreciation and practice meet other needs which are characteristic of the period. The growth of the body and the consequent need for its re-education, the development of the æsthetic emotions and the related necessity for the education of taste, the tendency to day-dream and the need in some cases for its correction, all reinforce the claim for a less bookish secondary education even for "intellectuals." They, like all adolescents, need education of the hands as well as of the tongue, training of the emotions as well as of the intellect, education for leisure as well as for work.

Most important of all in the education of the adolescent is social training. Neither narrowly

vocational training, with its continual appeal to self-interest, nor even more cultural studies in a school community run on competitive lines will be sufficient to meet the needs of these years. It is true that systematic study may result in the development of the individual's *intellectual* powers; but if he is continually encouraged through competition and does not have sufficient opportunities for co-operation with his fellows, he will tend to remain self-centred, and the socializing of the self natural to this period will be delayed. There may, therefore, very naturally result a clever schemer, seeking self-advancement, who on account of his educational opportunities has simply become more capable of outwitting his fellows. In such cases, the true objective of secondary education has not been reached. Little skill has been acquired in the difficult art of living in a community.

Even the most sympathetic critic of the newer secondary schools has to acknowledge that the proportion of failures, as judged by this instead of the usual examination standard, is still somewhat high. Although there have been widespread developments in social education and in the use of co-operative methods in work and play within recent years, there are still too many boys and girls leaving secondary schools who think only of their own advancement. They have not realized that all true education is for service and not for domination.

What is needed during the period of youth is that boys and girls should have opportunities of membership, and responsibilities, in a vitally organized community founded on principles of fellowship, and thus should be saved from the egoism of childhood. They should learn how to live harmoniously with their fellows, how to be loyal to their group, and how to approach their future vocation and civic responsibilities in the spirit of service.

In certain respects, the residential public schools have the most favourable conditions for the embodying of this ideal of education. In the past they have been wonderfully successful in training their pupils to live in a community, but unfortunately the community has frequently been too narrow and its interests too circumscribed to serve as an adequate preparation for adult social life. Sanderson's experiment at Oundle has shown the possibilities of the development of a broader social education in a public school. Not only were the boys at Oundle encouraged to do creative work in the service of a group, and given frequent opportunities for co-operation in work and play, but they were also helped to face the problem of their future work in the true spirit of stewardship.

The Boy Scout and Girl Guide movements, the secondary schoolboys' and schoolgirls' camp movements, and the dramatic, scientific and athletic societies which flourish so much in day schools, are

also valuable experiments in social education, but many of these are in a sense outside the ordinary routine work of the school. With few exceptions, that work is not yet organized to utilize the team spirit and to train the social emotions of adolescents.

There is one great hindrance in the way of the practical realization of this broader ideal of secondary education, and that is the widespread and almost superstitious regard for examination successes. It is not so much the examinations themselves that are to blame. They have been very largely adjusted to the needs of intelligent adolescents both in regard to age of entrance and to the variety of subjects possible. It is the false importance attached to examinations by educationists, parents, and the community generally that is the root of the trouble. When will it be realized that the possession of a school-leaving certificate (valuable as that may be for certain practical purposes) is no guarantee of social and spiritual growth? It is no guarantee that the individual possessing it has even begun to see the Universe the right way up, or has acquired any real skill in the art of living with his fellows. A pupil may have the best certificate in the school and yet be entirely self-centred, having scarcely a thought for others or for a life of service. He may be the first in the acquiring of knowledge and the last in the acquiring of skill in the art of living. He may be successful in examinations and

unsuccessful in the real growing-up process. What seems to be needed is that, in educational circles at least, first things should be put first. Parents and pupils will have to be persuaded to "seek first" abundant life; and if they can do this, it may very well be that certificates will be "added unto them."

NOTES ON FURTHER READING

In *Handwork as an Educational Medium* (Allen & Unwin, 2nd edition, 1915) Dr. P. B. Ballard considers the place of handwork in education from physiological and psychological considerations. He is not specially concerned with the education of adolescents, but the general principles deduced by him are largely applicable to the period.

Dr. A. J. Brock's article on *The Effect of Handicraft on Mind and Body* (Report of the Conference on New Ideals in Education, 1919) is an interesting account of the remedial effects of handwork on shell-shock cases.

Lord Baden-Powell's *Scouting for Boys* (C. A. Pearson, 1916) and *Sanderson of Oundle* (Chatto & Windus, 1923) are descriptions of experiments in the education of adolescents embodying the broader ideal of social education advocated in this chapter.

Dr. Cyril Norwood's *The English Tradition of Education* (J. Murray, 1929) is a valuable, though perhaps an unduly optimistic, interpretation of the ideals of English Public Schools.

CHAPTER VI

DIFFERENT TYPES OF ADOLESCENTS

So far this book has been mainly concerned with the *general* features characteristic of the period of adolescence; and the method adopted for their investigation has been largely statistical. Such a method is a useful, and indeed the only safe, means of approach for the study of the broad features of the period; but it has certain obvious limitations. When the statistician adds people up into masses and percentages, and calculates, for example, that a certain percentage of adolescents develop an interest in the opposite sex during the period, his results certainly give some indication of what is usual and to be expected in the majority of cases; but that which is most characteristic of a sub-group or of an individual case, and in which it differs from its neighbours, escapes his ken. He lets slip that which is most significant to educationists, namely the rich variety of the individuals constituting the statistical group. It is, therefore, necessary for his work to be supplemented by a consideration of the resemblances and differences between individuals, and for the method of statistical analysis to be combined

with the comparison of groups and with the more synthetic studies of individuals.¹

One very useful line of evidence in regard to variation has been accumulating in recent years through the extensive use of mental tests. Tests of *general* intelligence have been devised which do not measure educational attainment but rather the ability to solve problems and make adjustments to new situations. For example, the Binet-Simon tests consist of a graded series of such problems which have been standardized by application to thousands of children of the various age-groups. The series thus standardized can be used to measure roughly the mental age of any individual, success in any one kind of test counting as two months, where, as is usual, there are six tests for each year. If a ten-year-old boy is not only able to solve the problems appropriate to his *chronological* age but also scores successes in tests appropriate for older children, he may turn out to have a mental age of, say, 13. His intelligence quotient, which would be obtained by dividing his mental age (13) by his chronological age (10) and multiplying by 100, thus expressing the result on a percentage basis, would then work out at 130.

The extensive application of these and other tests of general intelligence in England, France and America has revealed a greater range of variations,

¹ See pp. 12-17.

especially above the normal, than might have been expected from the consideration of differences in educational attainments. Even if mentally defective children are excluded, intelligence quotients may vary from 60 or 70 to 150 or more. For example, while the majority of a large unselected group of twelve-year-old children will probably have a mental age of 12, there will be some with the sense of children of only 8, 9, 10, or 11 years of age, and there will be others whose intelligence will be equal to that of adolescents of 13, 14, 15, or even 16 years of age. Yet any of these may be adolescents, judged by physical and emotional developments, and may therefore need secondary education in the sense in which it has previously been defined. It is surely obvious, from this consideration of variations in *general* intelligence alone, that secondary education cannot be all of one type. There must be a variety of provision either in the same school or in separate schools; fewer subjects for those with less ability, a broader range of subjects and syllabuses for those who have more ability.

The use of performance tests as well as linguistic tests of general intelligence has revealed another kind of difference. The Binet-Simon, Terman and Northumberland tests are largely linguistic. The problems to be solved are put to the individual in words, and usually his solutions are also expressed in words. For example, a comprehension question

"What's the thing for you to do if a playmate hits you without meaning to do it?" is used by Terman for age 8; and the answers, whether satisfactory, like "Ask him to be more careful," or unsatisfactory, like "Tell my mamma," are in words. Similarly, vocabulary, definition, absurdity, and many reasoning tests are dependent on the use of language.¹ Recently, however, the Industrial Fatigue Research Board in England, following the lead given by such workers as Pintner, Yoakum and Yerkes, and Porteus in America, have used *performance* tests for measuring general intelligence.² These are problems that are solved by appropriate action, and not by speech. For example, the putting together of the parts of a profile or manikin, the getting out of mazes of increasing difficulty, and other similar puzzles, which constitute the series, can be solved without the use of words. It has been discovered that in the majority of cases there is close correlation between the results obtained by the use of the Binet-Simon scale and the performance tests. The children who come out above the average on the first also excel in the second, and those below the average are usually below in both. There are, however, a few marked discrepancies in the measurements obtained

¹ For the whole series of tests of which this is one, see L. M. Terman: *The Measurement of Intelligence*, 1916.

² F. Gaw: *Performance Tests of Intelligence*. Industrial Fatigue Research Board, Report No. 31, 1925.

by the use of both series of tests on the same individuals. Two cases might be quoted from the Industrial Fatigue Research Board records: the first had an intelligence quotient of 121 on the Binet-Simon tests, and 87 on the performance tests; the second only scored an intelligence quotient of 85 when tested with problems largely linguistic, but 112, well above the average, by the use of performance tests. Such discrepancies suggest that not only are there children with a strong linguistic bent, but that there are also others who have good practical ability, though a general non-verbal bent. It is doubtful whether the latter have so far been sufficiently considered in devising entrance scholarship examinations, nor indeed in organizing the work of secondary schools.

There are of course also very great differences in the *specific* abilities of individuals. One child may be above the average in mathematical ability and below in linguistic power; another may have less than average *general* intelligence and yet be almost a genius in art or music. In the past the method of selection for entrance to secondary schools has usually done less than justice to those individuals whose abilities lie in one direction. Their case should not now be forgotten in the reorganization of adolescent education.

The access of energy that comes with adolescence shows itself mainly in emotional changes, which in

turn have a great influence in determining the channels along which interest tends to flow. Variations in emotional experiences will, therefore, need to be considered before there can be any understanding of special interests and abilities. To this end, it may be valuable to compare the answers given by a group of workers to the same questionnaire on adolescence which was used on students.¹ This group consisted of 50 men and 50 women, all of whom had left school before, or at the age of, 13, and some of whom had become half-time workers before that age. They were mainly employed as cotton operatives, warehousemen, grocers, factory workers, bakers, and domestic servants: but some were married women engaged in the care of their homes and children. Their answers are tabulated below in a form suitable for comparison with the results already considered.²

TABLE II

COMPARISON OF WORKERS AND STUDENTS

Q. 1. Percentage who record as a favourite occupation or subject of study :		Workers.	Students
Reading and/or literature		59	64 ³
Games		11	33·5
Outdoor activities (e.g. walking, cycling, gardening, scouting, etc.)		22	26

¹ v. pp. 35-6.² v. pp. 37-8.³ All of the 59 workers referred to general reading: 48·5 per cent. of the students mentioned reading; but 28·5 per cent. of these also mentioned literature as their favourite subject of study

	Workers.	Students
Arts and Crafts (e.g. carpentry, needle-work, drawing, music, etc.)	61	35
Writing poetry	0	6
History (including politics)	10	24
Mathematics	0	31
Science	0	33
Geography	0	10
Philosophy or Theology	18	6·5
Q. 2. Percentage who record systematic day-dreams in adolescence	83	64
Q. 3. Percentage who record an increase in appreciation during adolescence in respect to:		
Nature	71	54·5
Music	40	59
Art	40	42·5
Poetry	29	63
Q. 5. Percentage who record religious experiences		
(a) in childhood	9	8·5
(b) in adolescence	50	61·5
Q. 8. Percentage who record an interest in the opposite sex during adolescence	91	83·5
Q. 9. Percentage who record important friendships during adolescence	90	73·5
Q. 10. Percentage who record hero-worship during adolescence	80	50·5
Q. 11. Percentage who were curious concerning the facts of life		
(a) in childhood	29	24
(b) in adolescence	88	73

and are therefore included in the 44 per cent. assigned to literature on p. 37. The total for comparison is therefore entered as 64 per cent., i.e. 48·5 per cent.—28·5 per cent. + 44 per cent.

The main differences in intellectual interests indicated in the answers to question 1 were undoubtedly partly due to differences in opportunity. The absence of any mention of science and mathematics as favourite subjects of study in a group which showed by the answers to question 3 a very lively interest in Nature can only be explained in this way. The fact that only a small number learned to appreciate poetry, that fewer still studied history, and that such a relatively large proportion indulged in systematic day-dreams was almost certainly due to lack of opportunity. But the high proportion of workers who enjoyed such practical occupations as needlework, playing the piano, mending clocks, gardening and poultry-keeping during adolescence (61 per cent. as compared with 35 per cent. of the students) suggests some difference which may go deeper, and be native rather than acquired; although even here it is not safe to generalize in the case of individuals whose opportunities for education were so limited, and whose talents may therefore have been deflected, if not destroyed.

The outstanding differences in the emotional experiences of the two groups are of more significance. A higher proportion of the workers than of the students recalled the development of the sex and social emotions (as indicated by the interest in the opposite sex, the friendships formed, and the

tendency to hero-worship) during adolescence; a lower proportion the intensification of æsthetic and religious emotions. The outward orientation of the emotional life would appear therefore to be directed towards other people in a greater number of cases in the first group, and towards the universe as a whole in the second. Indeed, even some of those workers who stated that they had had real religious experiences and had been "converted" in adolescence showed, when they tried to describe the form of their conversion, that it was a social, rather than a religious change; a realization of the brotherhood of man unrelated to a realization of the presence and purposes of God. Apart from these slight differences of proportion, the most striking thing about the two groups is the close resemblance between the emotional experiences of their members.

The examination of the answers of a few typical individual cases will not only reveal these general resemblances, but will also indicate the uniqueness of the experience of each individual.

Case W. 2, age 39 years, man, whose parents were living during his adolescence, had two brothers and one sister; left school at 11, and acted as a warehouse worker in a cotton mill from 11 to 18 years of age: he was interested in history, but his chief hobby during adolescence was "the repairing of mechanical toys, model engines, watches and clocks" (Q. 1); he had no systematic day-dreams

(Q. 2) ; had a deep appreciation of Nature but not much of music, art, and poetry (Q. 3) ; did not experience "sudden conversion" but "had a gradual growth and a determination to live up to the light received" (Q. 5 and 6) ; he was interested in the opposite sex, "fell in love at 17 and married the same at 24" (Q. 8) ; made many friends (Q. 9) ; hero-worshipped a man much older than himself, a noted swimmer (Q. 10) ; was not interested concerning the facts of life during childhood, but became curious during adolescence ; and because of his interest in Nature acquired some books on biology, anatomy and physiology from which, in his view "fortunately," he gained his knowledge (Q. 11).

This is a case of harmonious development, a general intensification of experience in the usual channels and a successful and easy *outward* orientation of the feeling life to a wife, society, and the universe as a whole. The new accession of life-energy was well distributed, as is shown both by the variety of the emotional developments and also by the absence of systematic day-dreams. The changes might be represented diagrammatically as illustrated on p. 69.

Case M. 21, age 26 years, woman, whose parents were living, had three brothers and one sister ; attended a girls' secondary school and a University. Her favourite occupation during ado-

lescence was reading (Q. 1) ; she had systematic day-dreams as described in the following words:—
 “During adolescence I always imagined myself the mother of a family. These imaginary children were never babies but always boys and girls of from 10 to 15 years of age, and much in need of my help. There were quite definite types—one was a strong

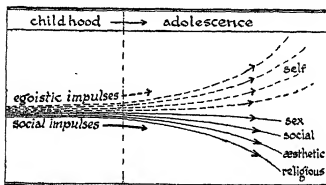


DIAGRAM 1.

athletic boy (I knew him quite well): another a dreamy imaginative boy: another very naughty and two girls. The father was always a vague person and different from time to time. The dreams ceased when I was 19 or 20 or perhaps later” (Q. 2) ; she had little intensification of æsthetic experience (Q. 3) ; but during adolescence “religion became a very real thing and helped in many ways” (Q. 5 and 6) ; she did not fall in love

(Q. 8); and did not make friendships (Q. 9). She left questions 10 and 11 unanswered.

This is a case in which there appears to be a blocking of certain of the channels in which the new energy of W. 2 was able to flow. It is here represented diagrammatically for purposes of comparison.

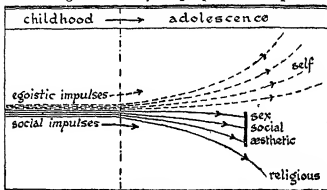


DIAGRAM 2.

The absence of æsthetic developments and of overt interest in the opposite sex might conceivably be consistent with the absence of the corresponding impulses, and not their blocking; but the nature and persistency of the day-dream recorded clearly proves that the sex and social impulses were actually operative although not openly expressed. An answer to question 11 would probably have thrown light on the nature of the blocking of these channels; but the unanswered question is not without significance, and provides additional evidence of difficulties in

facing the realities of life in regard to sex. It should however be noticed that some sort of balance was preserved between the two chief classes of impulses, namely, those directed *towards* and *away* from the self, religion being described by the writer as "helping in many ways."

Case C. 21, age 21 years, woman, whose parents were living, had one sister and three brothers; attended a mixed secondary school and a University College. Her favourite occupations during adolescence were reading novels, going for lonely walks, and playing the piano (Q. 1); she had systematic day-dreams, which still continue, of two kinds, the first of literary and academic success and the second of courtship and marriage with an ideal man (Q. 2); she had a much deeper appreciation of Nature than in childhood and she enjoyed being alone with it; she also developed a love of poetry (Q. 3); she had no real religious experiences (Q. 5); fell in love with two or three masters in school between the ages of 14 and 17 (Q. 8); made many friends (Q. 9); but did not hero-worship anyone of her own sex (Q. 10). During adolescence she was very curious concerning the facts of life, her curiosity being aroused "largely through conversations at school" (Q. 11).

The significance of the absence of religious experiences in this case can only be deduced by viewing it in its complete setting. The sexual,

social, and æsthetic emotions seem well developed, and there is a deep enjoyment of Nature which might be a compensation for the absence of real religious experience. But the lonely walks and the alternating day-dreams suggest some conflict between ambitious (or egoistic) impulses on the one hand, and social (including sexual) impulses on the other. Viewing the answers synthetically, it seems then not improbable that this conflict, by using up energy which otherwise might have flowed along other channels, caused the slight maladjustment indicated by the student herself in the following words:—"It was a source of trouble to me during adolescence that these (religious) matters should not have more effect upon me. It still worries me."

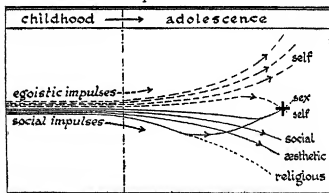


DIAGRAM 3.

Case M. 1, age 42, man, whose parents were living, had no brothers or sisters; had been at a

boys' public school and a University. He answered the question concerning day-dreams in the following words:—"I used to imagine myself in situations, but my imaginings were more an effort to imagine myself as out of situations into which circumstances were pushing me. I never for one hour *lived* the life that everyone supposed I was living but I 'went through the motions.' It suited my purpose rather well as it threw people off the real scent—at least I supposed it did." He recorded negative answers to questions 3, 5, 8, 9, and 10, and in amplification of his negative answer in regard to sex interests made the illuminating remark "I always had a kind of conflict between 'God is love,' and 'falling in love.'" He stated that he seemed to have known about the facts of life "for ever."

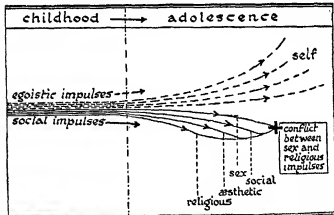


DIAGRAM 4.

This case is undoubtedly one where, owing to some shock or repressive influence, there was considerable difficulty in development during adolescence. The "double life" lived is a clear indication of serious conflict and maladjustment; and the absence of sexual, social, æsthetic, and religious developments must be regarded as a retardation. It is interesting to notice that the most serious difficulty in emotional development found among the 300 cases occurs in an individual who was the only child of his parents.

The majority of the cases that were used for compiling the statistical evidence were of the first type in their main features (diagram 1); but a number, like M. 21 and C. 21, had slight maladjustments whose probable origin could be deduced by considering the answers synthetically. In only a very few cases was the difficulty of development of anything like the same magnitude as that indicated in the case of M. 1 (diagram 4). It is therefore justifiable to regard the appearance or intensification of the sexual, social, æsthetic, and religious emotions as natural to the period of adolescence, and to interpret the exceptions as cases of difficulty or partial failure of development. This is the fundamental generalization which, together with the important fact of variations in intellectual ability, needs to be borne in mind in any schemes for the improvement of secondary education.

NOTES ON FURTHER READING

* Individual variations in intelligence are considered explicitly by Professor Terman in Chapters 5 and 6 of his book, *The Measurement of Intelligence* (Harrap, 1919), and by Dr. Cyril Burt in Memorandum II of his *Mental and Scholastic Tests* (King, 1922). Professor Thorndike's treatment of individual variations in *Educational Psychology* (New York, Teachers' College, Columbia University, 1910-13) is not limited to differences in intelligence but includes the consideration of other traits (see Chapters 8, 9, 10 and 11).

CHAPTER VII

RESEMBLANCES AND DIFFERENCES BETWEEN THE SEXES

BEFORE attempting to deal with the practical problems connected with the reorganization of adolescent education, another line of scientific evidence must be considered, namely, that relating to the resemblances and differences between the sexes. Many dogmatic statements about this perennially interesting topic have been made without any foundations; and the main difficulty in the way of arriving at the truth is that most observers are prejudiced one way or the other. Only some sexless angelic being could be expected to record the behaviour of the two sexes with that disinterestedness necessary for a fair judgment. The nearest approach to that detachment is undoubtedly attained by scientists using experiments under controlled conditions, and having therefore objective standards of comparison.

A. PHYSICAL RESEMBLANCES AND DIFFERENCES

There is not much difficulty in obtaining data for a fair comparison of the physical changes

characteristic of the two sexes in adolescence. It is generally agreed that there is a marked acceleration in growth in both, but that this spurt occurs somewhat earlier, on an average, in the case of girls than in the case of boys. There is a parallel, though differentiated, development of sex characters which profoundly affects almost all the physiological processes and leads to a sharp contrast between the blood-analyses of boys and girls *after* the change. There is an earlier beginning, a greater rapidity, and a shorter duration in the average growth of the girl as compared with the boy, which results eventually in his greater size and muscular strength. There is also a greater liability to fatigue and to slight nervous disorders during, roughly, the first half of adolescence in the case of girls—a fact of very great importance in the consideration of the problem of the differentiation of the secondary-school course for boys and girls.¹

B. MENTAL RESEMBLANCES AND DIFFERENCES

The comparison of the mental characteristics of the two sexes is more difficult; and in order to obtain a disinterested view it seems to be necessary to eliminate all opinions where there may be a

¹ Report on *Differentiation of Curricula between the Sexes in Secondary Schools*, H.M.S.O., 1922, especially Appendix V by Dr. J. G. Adami.

sex bias, and to concentrate on facts discovered by experiments which are so conducted that the sex of the experimenter could not affect the results. Fortunately, there have been a number of investigations of this kind, where the same tests or experiments have been tried on the two sexes under the same conditions.

General Intelligence and Special Abilities.—The extensive use of intelligence tests, originally designed for other purposes, has provided data for the comparison of the *average* intelligence of boys and girls. Terman tested nearly a thousand children (457 boys and 448 girls) in America by the use of the Binet-Simon scale (as revised in Stanford); and found, on taking averages, that the girls of each age-group from 5 to 13, with the single exception of 10, had a slight superiority over the boys¹; so slight, however, that for practical purposes it would seem to be negligible. He concludes that "as far as the evidence of mental tests can be trusted, the *average* intelligence of women and girls is as high as that of men or boys."² In England Dr. Cyril Burt came to the same conclusions after employing the Binet-Simon tests on some three thousand school children, as will be seen from the following tabulated results

¹ L. M. Terman: *The Measurement of Intelligence* (1919), fig. 3, p. 69.

² *Ibid.*, p. 68.

taken from his book entitled *Mental and Scholastic Tests*.

Chronological Age.	Average Mental Age (Boys).	Average Mental Age (Girls).
3	3.2	3.8
4	4.5	4.7
5	5.3	5.7
6	6.2	6.8
7	7.3	7.8
8	8.4	8.7
9	9.2	9.6
10	10.7	10.4
11	11.4	11.5
12	12	12.4
13	12.9	13.3
14	13.5	14.2

Since the average mental age of girls of each chronological age-group from 3 to 14, with the single exception of 10, is slightly higher than that of the corresponding boys, Dr. Burt concludes that "the feminine sex, if any, is the superior sex in the Binet tests."¹

Although there appears to be very little difference between the *average* general intelligence as measured by these tests, both Terman and Burt noticed interesting differences in the method of scoring by boys and girls. The tests used are of many kinds, and although the total score made on the series was almost the same, the boys on an average did

¹ C. Burt: *Mental and Scholastic Tests* (1921), p. 193.

better on the definition and similarity tests, and also on the arithmetical reasoning tests, whereas the girls compensated by their better scores on vocabulary and æsthetic judgment tests, and also on comprehension questions. For example, one of the six tests for age 14 was the following definition test : "There are three main differences between a president and a king; what are they?" The three differences relate to tenure, manner of accession, and power: and a response is regarded as successful if any two of these are given, such as "The king is king for life, the president only for a term of years"; "The king is king by birth, the president by election." A great number of fourteen-year-olds, and indeed of adults, fail in this test; and show by their answers that, although they may have formed *images* of kings and presidents, they have not abstracted the essential idea behind the contrast. For example, replies like "A king wears a crown, a president does not"; "A king dresses up more"; and the unconsciously humorous one of the poor speller, "The king sits upon a thorn," would, on this account, be regarded as unsatisfactory. Although there are always some girls who score as well as the best boys on such definition tests, Terman found that the average score of the boys was better than that of the girls. The girls, however, made up for their deficiencies in this and the similarity and arithmetical reasoning tests, by their

greater success in vocabulary tests, æsthetic judgments and problems requiring what might be described as social tact for their solution. For example, "What ought you to say when someone asks your opinion about a person you don't know well?" and "What ought you to do before undertaking (beginning) something very important?" are two of the three comprehension questions assigned to age 10; and on an average the girls were more successful than the boys in their responses to such questions.

These differences are not unexpected. They agree with the widespread view that, while boys and men are on an average better in reasoning and mathematics, girls and women excel in command of language and in social tact. They suggest, however, that the *linguistic* nature of the Binet-Simon tests may have given an unfair advantage to the girls, who on the whole appear to have better vocabularies than the boys. Dr. M. McFarlane's measurement of the constructional abilities of boys and girls in the London schools reinforces this objection. She found that considerably more boys than girls succeeded, under controlled conditions, in making a toy wheelbarrow out of the parts provided. This test might conceivably have been unfair to the girls, fewer of whom would have had much working acquaintance with a wheelbarrow: but in a second test—the construction of a doll's

cradle—which was in line with the interests of the majority of the girls, the boys still proved themselves to be slightly superior.¹

It is, therefore, perhaps wise in comparing the average general intelligence of boys and girls to use performance tests as well as the Binet-Simon series. The records obtained by the Industrial Fatigue Research Board show that, when performance tests are used, the boys on an average have a slight advantage over the girls.² The general conclusion must, therefore, be drawn from the use of both kinds of tests that there is, on an average, practical equality between boys and girls of the same age in regard to general intelligence.

What explanation is there then of the fact, obvious to any fair-minded observer, that there are proportionately more distinguished and creative minds among men than among women? The researches of Dr. Helen Thompson on students of Chicago University throw some light on this question, though they do not supply the whole explanation. Dr. Thompson tested equal numbers of men and women students for sensory acuity, motor control, and higher thought processes: and she found that, although the women were on an average better in touch, taste, and sense of colour,

¹ M. McFarlane: *A Study of Practical Ability*, 1925.

² Industrial Fatigue Research Board, Report No. 33 (1926), pp. 26-7.

and the men were superior in motor control, there was no difference between the *average* scores of the men and the women in respect to the higher thought processes. The range of variations was the same ; but there was one very significant difference, namely, in the distribution of the cases round the average. There were proportionately more men who scored very high marks, and also there were proportionately more whose scores were very low.¹ The men, then, tended to go to the two extremes ; the women to cluster round the average.

The common view that there are proportionately more men of very high intelligence than women is probably true, but it appears to be only half of the truth, the other half being that there are also proportionately more cases of very marked intellectual weakness. More geniuses, coupled with more *idiots* and mentally defectives, make the *average* the same as for the other sex.

The general conclusion that can be provisionally drawn is, then, that individual differences in intellectual ability within each sex far outweigh the differences between the two sexes. Consequently, while the case for great variety of educational provision for both boys and girls is clearly proved, the case for sharp differentiation of the curricula for the two sexes is not substantiated by the known facts of variation in intellectual ability.

¹ H. Thompson: *The Mental Traits of Sex*, 1903.

Emotional Resemblances and Differences.—It is generally agreed that both sexes inherit the same instincts and the same tendencies to feel such simple emotions as fear, anger, positive and negative self-feeling, and affection. The more complex emotions, such as admiration, reverence and the æsthetic and religious emotions, are also within the range of the experiences of both sexes; and the same kind of development of the emotional life occurs in both cases during adolescence, although it occurs on an average earlier in the case of girls than boys.

It is far more difficult to investigate emotional differences between the sexes than to compare intellectual ability; for although tests of temperament are beginning to be used both in England and in America,¹ they are so undeveloped at present that their use must remain tentative for some time. Meanwhile, indirect and less scientific lines of evidence must be utilized, and the conclusions drawn from them be regarded as provisional.

Dr. Cyril Burt's work on *The Young Delinquent* provides one such indirect line of evidence. Dr. Burt investigated many cases of juvenile delinquency, and classified the misdemeanours committed according to the instinctive tendencies (and emotions) to

¹ M. Collins: "Character and Temperament Tests," *The British Journal of Psychology*, October 1925.

D. W. Oates: "An Experimental Study of Temperament," *The British Journal of Psychology*, July 1928.

which they appeared to be related. He found that a higher proportion of such offences as burglary, excessive fighting, cruelty to animals, stealing and wandering occurred amongst the boys; and a higher proportion of sex offences, lying, and attempted suicide among the girls.¹ The first group might be regarded as arising from failure to control the instincts of pugnacity, self-assertion, and acquisitiveness, that is, the kind of impulses directed towards the *self*; and the second as arising from a similar failure to control the sex impulse, self-subjection and other instincts that are in the social group.² This contrast throws light on the emotions which most easily get out of control in the two sexes, and therefore provides indirect evidence of a difference of strength in the egoistic and social emotions of the two sexes. The difference indicated is of course only slight and relative, both sexes having the same fundamental instincts and their corresponding emotions.

The comparison of the answers of men and women to some of the questions on adolescence previously considered³ also provides another line of evidence concerning the emotional differences between the sexes. The tabulated results are those obtained from the same 200 students⁴ (100 men and 100 women) and 100 workers⁵ (50 men and 50 women),

¹ C. Burt: *The Young Delinquent*, 1925, Table I, pp. 15-16.

² See diagram 1, p. 69.

⁴ Table I, pp. 37-8.

³ See pp. 35-6.

⁵ Table II, pp. 64-5.

the latter being placed on a percentage basis for ease in comparison.

TABLE III
COMPARISON OF MEN AND WOMEN

	Group 1 (Students).		Group 2 (Workers)	
	Men.	Women.	Men.	Women.
Q. 2. Percentage who had systematic day-dreams in adolescence . . .	50	78	84	82
Q. 3. Percentage who record an increase in appreciation of:				
Nature	52	57	80	62
Music	52	66	40	40
Art	36	49	60	20
Poetry	55	71	40	18
Q. 5. Percentage who record having real religious experiences				
(a) in childhood	3	14	8	10
(b) in adolescence . . .	62	61	18	82
Q. 8. Percentage who record an interest in the opposite sex during adolescence	94	73	84	98
Q. 9. Percentage who record important friendships during adolescence .	75	72	82	98
Q. 10. Percentage who record hero-worship during adolescence . . .	47	54	80	80
Q. 11. Percentage who were curious concerning facts of life				
(a) during childhood . .	23	25	14	44
(b) during adolescence .	69	77	100	76

It will be seen from these figures that in the second group (of workers) there are proportionately more women than men who were interested in the opposite sex during adolescence (98 as compared with 84), and who acknowledged that they were curious concerning the facts of life at an early age, that is, during childhood. There are also proportionately more who had real religious experiences during adolescence (82 as compared with 18), but fewer who record an intensification of the æsthetic emotions. On the whole, however, the results are in agreement with the conclusion reached by the indirect evidence connected with juvenile delinquency, namely, that more women and girls than men and boys tend to emphasise emotions that are directed *away* from the self.

In the first group (of students) there are additional complications. There are considerably more women than men who record an intensification in their enjoyment of poetry, music, art, and Nature, but there are fewer who state that they were interested in the opposite sex (73 as compared with 94). This last fact might conceivably be due to a greater secretiveness among women than men in regard to such matters; but in that case a similar contrast should have occurred between the men and women workers. Its significance can only be properly interpreted when it is remembered that more of the women than the men in group 1 indulged in

systematic day-dreams (78 as compared with 50); and that many of these day-dreams, like that recorded in case M. 21,¹ indicated a sex interest which through lack of opportunity or from some other cause could not be openly expressed. It is, therefore, probable that in the second group, as in the first, there is a greater emphasis on the emotions that are directed *away* from the self among the women than among the men.

The great difference in the proportion of men and women who had systematic day-dreams in group 1 and the absence of a corresponding difference in group 2 is highly significant. Day-dreams are very frequently compensations, and indirectly express impulses that are denied expression by the actual environment surrounding the individual. The boy who constantly imagines himself making a century at cricket and yet in actual life frequently "goes out for a duck" compensates in thought for his failure in reality. The high proportion of both men and women *workers* who had resort to day-dreams during adolescence indicates that the conditions under which they were compelled to live left unsatisfied some of their newly reinforced instincts. For example, one lad of unusually high intelligence (W. 3), at work in a cotton mill from the age of 12, continually imagined himself the Prime Minister of England. His growing powers

¹ See p. 69.

and ambitious impulses could not find scope in his actual occupation, and he compensated in the world of thought for his lack of opportunities. The contrast between the 84 per cent. of the men in group 2 and the 50 per cent. of the men in group 1, who made use of these compensatory day-dreams, indicates in a striking form the magnitude of the difficulties in development that must have arisen among those who had to leave school at an early age, through lack of educational opportunities.

The high proportion of University women (78 as compared with 50 men) who had a similar tendency to day-dreams shows that there is a greater liability to conflict and slight maladjustments among highly intelligent girls than highly intelligent boys. The ambitious impulses of a man are reinforced by his plans for marriage and family life; whereas a woman usually has to make a choice between sacrificing her own ambitions in attaining full social life and concentrating on professional work to the exclusion of marriage. The shadow of this choice is thrown across her even during adolescence, and in a number of cases there are signs of definite conflict between the egoistic and social impulses, both of which receive new energy during this period. This greater liability to conflict is perhaps the chief difference between highly gifted women and men of a corresponding intellectual calibre. It may largely explain the smaller pro-

portion of women who attain intellectual and professional distinction, notwithstanding the fact that their ability, as measured by general intelligence tests, does not seem to be lower than that of men.

The emotional development of the girl is, then, in certain respects more difficult than that of the boy. To him there is a fairly obvious path open, to express his powers, attain economic freedom and full social maturity. To her the course is much less plain, and may only become clear after the resolution of many conflicts. She is frequently helped through her difficulties in growing up by her love of her father, whose influence on her emotional development at this stage tends to be greater than that of her mother. The case is different with the adolescent boy whose strongly reinforced egoistic impulses are much more likely to bring him into conflict with his father. While his mother tends to err on the side of spoiling him, his father needs to be constantly on his guard against being unduly harsh and unsympathetic. One of the most poignant and illuminating comments on the difficulties of development which arise out of unsympathetic family relationships during adolescence is undoubtedly that contained in Edmund Gosse's autobiography entitled *Father and Son*.¹ It is a record of a struggle between two temperaments, and illustrates

¹ Published anonymously, 1907, and later under the author's name.

how personal relations between father and son may be poisoned by the undue repressive influence of the adult. It shows what difficulties may arise through misunderstanding by a well-meaning parent, and proves the necessity for education for the responsibilities of parenthood. Undoubtedly the greatest wisdom and psychological insight is needed by parents, if they are to avoid both the evil effects of undue influence and also of what, to the adolescent, appears to be a triangular emotional relationship.

The part played by the parents in determining the emotional development of their children during adolescence is so subtle and far-reaching that to regard the teacher and the school as the chief influences at work in the formation of character is palpably absurd. Whatever may be true of the education of the intellect, the home must ever remain the premier training-ground of the emotions; and in adolescence, when emotional changes may threaten to overwhelm a boy or a girl, the closest co-operation between parents and teachers will be necessary if the appropriate help is to be given. This fundamental truth must be remembered when the problem of the discipline suitable to this period comes under consideration.

NOTES ON FURTHER READING

Appendix V to the Report on *Differentiation of the Curriculum for Boys and Girls respectively in Secondary Schools* (H.M.S.O.,

1923) is a balanced statement by Dr. J. G. Adami of the physical differences between the sexes during adolescence. Both Burt and Terman deal judiciously with the resemblances and differences between the sexes in respect to intelligence (see references in the text), and Thorndike considers the general problem of the influence of sex on mental characters in Chapter III of his *Educational Psychology* (New York, Teachers' College, Columbia University, 1910-13). Dr. H. Crichton Miller has two useful chapters (IV and V) on the emotional development of the boy and the girl respectively in his book *The New Psychology and the Teacher* (Jarrolds, 1921). Mrs. S. S. Brierley sums up the modern scientific position in regard to *sex differences*, mainly from a psycho-analytic point of view, in her article published in the *British Journal of Medical Psychology*, Vol. III, Part IV.

See also Wheeler, *Variations in the Emotional Development of Normal Adolescents* (*British Journal of Educational Psychology*, 1931, Vol. I, pp. 1-12), for a fuller discussion of the emotional differences between the sexes.

CHAPTER VIII

THE PROBLEM OF THE CURRICULUM. CONSTANTS AND VARIABLES.

THE curriculum suited to an individual adolescent can only be determined by considering his present needs, interests and abilities, and his future work in the world. The second factor is somewhat indeterminate in the case of most boys and girls during the early part of the period ; and although it is perfectly clear that one of the main purposes of continued education will be to prepare them for the full responsibilities of citizenship, the purely vocational factor should not be allowed to have much weight until their growing abilities and interests have had a chance of expressing themselves. The education of an individual during the sub-period from 11 or 12 to 15 or 16 should therefore be determined primarily by a consideration of his present needs and abilities, and his future responsibilities as a citizen.

The psychological facts examined in the preceding chapters have revealed certain *common* features among individuals during the period of adolescence, and also a great range of *variations*. The common features, which are combined with

varying degrees of general intelligence, practical ability, and educational attainments, and also with differing special interests, should determine the central core or irreducible minimum curriculum, to which can be added other subjects and occupations in accordance with varying needs.

The Irreducible Minimum. The Constant in the Curriculum.—What, then, is the irreducible minimum which should be common to the varying curricula for adolescents during the sub-period from 11 or 12 to 15 or 16 years of age? The study of the chief lines of development during these years supplies the answer to this question. The rapid development of the body indicates the need for a place for physical education and games. The necessity for the joint exercise of body and mind, and for the education of the æsthetic emotions and of taste, can be met by the appreciation and practice of an art¹ or craft. The increased interest in Nature, and the intense curiosity concerning the facts of life which arises at this period, can be utilized in simple scientific, and especially biological, studies. The most important tendency of all, that towards the socializing and spiritualizing of the individual, can be trained by the study of the theory and practice of social life, and by religious education. In this group would be in-

¹ The term "art" is used here in its broader sense to include music as well as the plastic arts.

cluded the literature and the language (or languages)¹ of the people to whom the individual belongs, together with history and geography which would give him some insight into the life of his own nation in relation to that of other peoples, and of civilization as a whole. Civics would be included, but not as a separate subject in a water-tight compartment: rather in its setting as a link between historical studies and practice in the art of living in a community. Lastly, the individual's search for a religion or a philosophy of life must be recognized, and met as far as possible.

Physical training; an art or a craft; Nature study; the native language (or languages), literature, history and geography; social and religious education—this appears to constitute the irreducible minimum. Where then are all the other subjects, Mathematics, Physics, Chemistry, Latin, Greek and French, which figure in the traditional curriculum of the existing secondary school? It should be clearly realized that the irreducible minimum is naturally adapted to adolescents of relatively low ability, for whose continued education provision is beginning to be made. The history of secondary education in the past has constantly revealed the dangers of an over-burdened curriculum, even for pupils of relatively high intelligence.

¹ If the individual belongs to a bilingual people, the second language would also be included.

Boys and girls have learned so many smatterings of this and that, that they have left their secondary school with mental indigestion, with little standard of scholarship, and less power of independent thought. This danger of an over-burdened curriculum is even greater when provision is being made, not only for selected groups, who pass entrance scholarship examinations and whose abilities may therefore be presumed to be above the average, but for all adolescents, including those whose ability is below the average. For the latter group, the irreducible minimum will probably be found sufficient, especially if individual interests are considered, and some additional free choice is allowed.

Sanderson of Oundle believed that, if sufficient freedom of choice of occupation were given, the *dull* boy would be proved not to exist; and it is certain that many an individual, whose average intelligence might appear to be low, can do one thing supremely well. The finding of this one thing, which will bring self-respect to the individual, and may therefore have a far-reaching effect on his development, is indeed one of the most important functions of the true educator: and if the prescribed curriculum is not unduly heavy, the chances of his success in this direction are undoubtedly increased.

It may be argued, however, that Mathematics, or at least Arithmetic, should find a place in this

minimum because of its practical importance. There are several points to be considered before the minimum should be increased by pressure coming from specialists. In the first place, it should be remembered that adolescent education is a second stage following on the education of childhood, where the three R's are naturally important. The ordinary arithmetical rules, as well as the arts of reading and writing, will therefore have already been learned. Secondly, just as opportunities for reading and writing will occur without special provision for them in the time-table, so opportunities for the application of ordinary arithmetical rules should and will be provided in the work in elementary science and in the practice of a craft. In addition, it is doubtful whether the *practical* importance of Mathematics is not being over-emphasized. Its disciplinary value to those who are interested is immense; but its practical value to those who are not interested is not as great as the traditional view might lead one to expect. There are vast numbers of leaders of thought and business and industry who manage very successfully with a minimum of mathematical knowledge, comparable to that acquired in an elementary school. The inclusion of Mathematics as a separate group of studies for *all* adolescents does not therefore seem to be necessary, although its practical importance in so many occupations will

naturally make it one of the variables most frequently added to the irreducible minimum.

Variables in the Curriculum.—For pupils of higher intelligence there should be added to this irreducible minimum, subjects and occupations, whose number and nature should be determined by the varying ability and interests of individuals, and by the varying needs of the localities in which the schools are situated. The psychological facts reviewed in Chapter VI have already shown that there are two main types of adolescents with more than average ability: those whose bent is academic, that is, linguistic and/or scientific; and those whose interests are largely practical. Both should be expected to do more than the minimum suited to those of lesser general intelligence: but whereas the variables added for the first group will be academic studies, such as Mathematics, French, German, Latin, Greek, Physics and Chemistry (though the one art or craft should never be eliminated), those added for the second type should be practical, such as crafts and the applied sciences to which they are related.

The first group will be following a course not unlike that in the existing secondary schools, and leading to the obtaining of a School Leaving Certificate and to the fulfilment of matriculation requirements. By adding Mathematics, Latin or Greek, and/or a modern language to English,

History and Biology, the matriculation requirements of most Universities would be met, without disturbing the central core. Indeed, in some modern Universities, though not in all, Art or Music can be taken as an optional qualifying subject under certain conditions. All then is plain sailing for the academically minded group to pass on to Universities and into professions.

The second group, with great practical ability, are not so well catered for at present. If they gain scholarships at Secondary schools of the ordinary type, they tend to be deflected from their real interests in order to fulfil matriculation requirements. If they pass on to Central schools, they may be more fortunate ; but even in this case it is not unlikely that because of their ability they will be the victims of a policy in regard to examinations which arises out of a sense of inferiority, and makes the Central school tend to ape the older established Secondary school. The reason for differentiation of provision is sometimes forgotten, and many Central schools thus tend to become anæmic copies of Secondary schools. But their true function undoubtedly is to give a more practical kind of education, which will either lead on to technical institutions and to the higher posts in agriculture, industry, and commerce, or will lead directly into work in the agricultural, business, or industrial worlds.

The psychological facts clearly prove the necessity

for at least three main types of curricula for adolescents: the first consisting of the irreducible minimum and a number of variables of an academic kind, some of which might of course be treated practically; the second consisting of the same constants but different variables, most of which would be of a practical nature; and the third for those whose abilities are not so good, and who can therefore do little else than the subjects of the common core.

There are several alternative ways in which the necessary differentiation might be secured. In the first place, there might be three separate kinds of schools for adolescents, as in the main is recommended in the Hadow Report.¹

“As post-primary education develops,” says this Report, “the schools dealing with the post-primary or secondary stage of education should include (in addition to Junior Technical and Trade Schools) at least the following main types:—

(i) Schools of the ‘secondary’ types now commonly existing which at present follow in the main a predominantly literary or scientific curriculum, and carry the education of their pupils forward to the age of at least 16+.

(ii) Schools of the type of the existing selective Central Schools, which give at least a four years’

¹ Report of the Consultative Committee on *The Education of the Adolescent* (1926).

course from the age of 11+, with a realistic or practical trend in the last two years.

(iii) Schools of the type of the existing non-selective Central Schools, which may either be the only central schools in their area, or may exist side by side with selective central schools and cater for those children who do not secure admission to such schools.

(iv) Senior Classes, Central Departments, 'Higher Tops,' and analogous arrangements for providing advanced instruction for pupils over the age of 11+, for whom, owing to local conditions, it is impossible to make provision in one or other of the types of school mentioned above."¹

From the psychological point of view, the main difficulty in regard to this reorganization is that of fitting the individuals into the scheme, which at least on paper has a certain almost mechanical tidiness. How can pupils be selected at 11+ for the three types of schools, the "Secondary" or Grammar, the Selective Central or Modern, and the non-selective Central or Senior school? If a mistake is made in the original drafting, or if an individual matures late and therefore is a misfit in the school in which he was originally placed, how is the wrong placing to be rectified?

¹ Report of the Consultative Committee on *The Education of the Adolescent* (1926), pp. 79-80.

A second alternative method of reorganization which has found some supporters, would be to have separate schools of two kinds for the abler pupils, and for the rest who fail to gain removes either into the Grammar or the Modern school to remain in the Elementary school. Neither the Hadow Report nor the Board of Education pamphlet *The New Prospect in Education*¹ gives any support to this alternative, except as a temporary measure. The physical, intellectual and emotional changes characteristic of adolescence are so great that there is a real need for different treatment, a different type of teaching, a different curriculum and, most important of all, for the full attention of a trained staff selected to meet the requirements of adolescents and specially interested in the problem of their education. The work in "Upper Tops" may have been an improvement in comparison with the "marking time" of standard VII and ex-VII in the earlier period, but it was bound to be perfunctory where the children were few and were constantly depressed by the feeling of having been "left behind," where the social life could not be very different from that suited to juniors, and where the staff were not specially appointed to deal with adolescents.

The third alternative is that of having "sides" within a secondary school, either for the two groups

¹ No. 60, 1928.

of more than average ability, or for all three groups. This arrangement would have certain obvious advantages. The difficulties of selection and of transference from one side of the school to another would be largely solved. If a pupil developed late, it would be an easy matter, if he were already in the school, to transfer him to the course of work best suited to his added powers: and if a precocious pupil did not fulfil his early promise, he also could be transferred to a less ambitious course. The illogical division of administrative responsibility for post-primary education between the Higher Education and the Elementary Education authorities would not exist in this case; and the anomaly of two scales of salaries for secondary (that is, post-primary) work might also disappear. These are theoretical advantages which, in a country like Wales, well provided with small secondary schools, or in a rural area, where the numbers of adolescents are not great, would at least justify experiment. There is one possible educational disadvantage, and that is that the attention of the staff might tend to be unduly concentrated on the abler pupils, and the less clever might therefore suffer. There are of course overwhelming practical difficulties in the way of carrying out this experiment on anything like a large scale. The existing secondary school provision could not be quickly expanded and therefore, if the third alternative were attempted, at

least another generation would miss a genuine post-primary education. On this account, the first method of differentiation, namely, the setting up of Central and of Senior schools side by side with the existing Secondary schools, will undoubtedly be the one most commonly attempted at present by local education authorities.

The variables in the curricula of Central schools and the crafts chosen for Senior schools will to some extent be influenced by local conditions. If the Central school is in a rural area, the sciences and crafts that are most closely related to agriculture will tend to be emphasized; if the school is in a mining district, the physical sciences will receive more attention. But this differentiation to suit local conditions should never be allowed to disturb the balance of the irreducible minimum. The fact that a large proportion of boys in a Central school intend to enter the mining industry is no argument in favour of the substitution of mechanics or physics for elementary biology in the curriculum. Their curiosity concerning the creativeness of life must be satisfied, and simple biology must therefore maintain its place in both urban and rural Central schools. But the variables to be added to the irreducible minimum should be influenced by the kind of work which a boy or girl hopes to do, although the training at this stage should never become narrowly vocational.

Similarly, the variables appropriate for girls will tend to be different from those usual in the case of boys. But the "domesticity" ideal of girls' education must not be over-emphasized, especially in these days when the position of woman in business and the professions and in society generally is changing so rapidly. The only safe rule is that education at this stage, whether for boy or girl, should be determined primarily by psychological considerations, that is, by the individual's interests and abilities.

NOTES ON FURTHER READING

In this chapter the psychological approach to the consideration of the problem of the curriculum has been emphasized. It might be of interest to the student to compare the method with that used by Herbert Spencer in 1860 in *Education, Intellectual, Moral and Physical*, or by T. H. Huxley in 1868 in "A Liberal Education," contained in a volume of essays, entitled *Science and Education* (Macmillan, 1893). Their main criterion in deciding on the inclusion or exclusion of subjects of study was the relative values of different departments of knowledge. Professor Bompas Smith's book *The Nation's Schools* (Longmans, 1927) contains an illuminating consideration of the modern problem of the curriculum mainly from this angle (Part IV—"Some Things the Schools should teach").

CHAPTER IX

SOME PROBLEMS OF REORGANIZATION— ADMINISTRATIVE

THE particular difficulties of the reorganization of adolescent education by the setting up of Central and Senior schools side by side with the existing Secondary schools will naturally vary with varying local conditions; but there are certain general problems which will face all authorities, and which will only be satisfactorily solved by a consideration of the relevant psychological facts and by a variety of experiments. The administrative complexities that arise through the division of education into three branches—Elementary, Secondary and Technical—and the illogical placing of Central and Senior schools in the Elementary group although by the nature of their task they belong to the Secondary group, the resulting injustice to Central school teachers in respect to salaries, and the difficulties of dual control are dealt with in some detail in the Hadow Report.¹ It is not my intention in this book to examine purely administrative difficulties which are due to earlier educational history, but

¹ *The Education of the Adolescent*, H.M.S.O., 1926, ch. x.

only those problems on which the facts of the psychology of adolescence are likely to prove helpful.

Co-education.—Such, for example, is the problem of co-education. Should there be separate Central and Senior schools for boys and girls, or mixed schools for both ?

It is true that the Board of Education has given a definite lead in circular 1350 in favour of separate departments for boys and girls, although it recognizes that it may be necessary to establish mixed schools in the less populous areas. It has been influenced, no doubt, by the obvious consideration that the organization and management of a school for boys or girls is in some respects simpler than that of a mixed school. Yet, if social training is so important during adolescence, a very strong case could be made out for the mixed school, which gives opportunities for co-operation between the sexes. The intellectual differences between boys and girls are not any greater than those found between members of the same sex, and although the physical differences and special interests would have to be taken into account, it is an open question whether this variety would not be found to be useful in the development of the corporate life of the school. For example, suppose that the girls should tend to take cookery and household management, and the boys woodwork and metal work as their special crafts. This would tend to increase

the complexity of the organization of the school, but it would also give added opportunities for practice in co-operation. The cookery class might help in the preparations for a school party, in which all would participate ; and the woodwork or metal work group might co-operate in the production of utensils or articles of furniture useful to the kitchen. The whole social life of the school would be more natural, and consequently, if the school were well run, would be a better preparation for adult life.

The task of running a mixed school for adolescents is certainly more difficult than that of managing a boys' or girls' school : but it has been accomplished with such marked success in some experimental Central schools that it is to be regretted that the Board of Education has not given more encouragement to bold experiments in social education of this kind. It may have been influenced by the very real difficulty which arises in regard to the appointments to headships in mixed schools. But although the majority of schools might very well separate the sexes, yet where there are teachers with a great faith in co-education, it would seem to be a pity to discourage them from undertaking experiments which would in any case be useful for purposes of comparison, and which might reveal possibilities of a higher order of social education than that now sanctioned by tradition.

Selection and Transference of Pupils.—Perhaps the

most difficult problem that now confronts authorities who are reorganizing adolescent education is concerned with the selection of pupils for the different types of schools. Obviously the greater the differentiation in the kinds of provision made for adolescents, the greater is the difficulty of appropriate selection of individuals for the various kinds of schools. The method adopted by some authorities of having one common entrance scholarship examination of an academic kind, consisting mainly of papers in Arithmetic and English (including composition), and of using it as the sole sifting agent is unfortunate from many points of view. It has the effect of drafting the first group of candidates on the resulting pass lists into the Secondary (or Grammar) schools, the second group into the Central (or Modern) schools and the remainder into Senior schools; and is thus likely to breed an unhealthy feeling of inferiority in Central and Senior schools, and an equally undesirable feeling of superiority in Secondary schools. It is also based on a number of false assumptions. It pre-supposes that examinations in Arithmetic and English are fairly accurate tests of general ability; that it is unnecessary to test practical skill, or to take account of powers of observation of Nature; and that partial success in an academic examination can be interpreted as an indication of the possession of an intelligence of a practical kind.

If the full advantages of the increased differentiation of provision are really to be secured, more appropriate and more accurate methods of selection will need to be developed. The broadening of the test of educational attainments to include Nature study, the greater consideration of elementary school records, and the use of linguistic and performance intelligence tests would seem to be indicated. The appointment of a trained psychologist to investigate the problem and to advise the local education authority on its solution seems indeed to be necessary. The more accurate diagnosis of individual ability which would thus become possible would not only be useful in this transition stage between elementary and secondary education, but with the school records and further tests at later periods it could be used for purposes of vocational guidance.

However accurate the methods of selection for the various types of secondary education may become, there will always be occasional need for the transference of an individual from one type of school to another. Late development or early precocity not fulfilled may necessitate a change in one direction or the other. It is obviously important that transfer should take place either way, so that the idea of horizontal differences in secondary education should be gradually substituted for the present false view of higher and lower forms of adolescent education. This can only be done effectively

through the close co-operation of the heads of the various kinds of schools in one locality. It would therefore seem to be wise for local authorities to set up advisory committees of elementary, senior, central and secondary school teachers, who, with the help of a trained psychologist, could hammer out solutions of the problems of selection for, and transference to, the various kinds of post-primary schools.

The problem of the relation between Secondary (or Grammar) schools and Senior schools presents a special difficulty. Are the Senior school pupils to be allowed to sit again for the entrance examinations into Grammar schools? If they are, there is a grave danger that Senior schools will tend to prepare for such examinations instead of aiming at a genuine post-primary education. On the other hand, if an individual is only allowed one attempt to pass such an examination at a specific age, there is obviously a danger of injustice, especially in the case of rather nervous candidates. The solution would seem to lie along the line of giving each candidate at least two chances, one between 10 and 11, and the other between 11 and 12, *before* he proceeds to any form of secondary education. If this were done, and if the methods of selection were also improved, and the way always kept open for transference in special cases, there should be no need for Senior schools to be preparing for Grammar school entrance scholarship examinations, and consequently for them to be

deflected from playing their true part in the educational system as genuine post-primary institutions.

Examinations.—Entrance to the various types of schools for adolescents has to be by way of tests and examinations, although the reports of the heads of junior schools will probably have a greater weight attached to them in the future than has been usual in the past. Must there also be school-leaving examinations?

In the Secondary or Grammar school there is a school-leaving certificate examination which is usually taken by pupils of about fifteen or sixteen years of age, and a higher certificate which is taken two years later. The former certificate, under certain conditions, brings exemption from the matriculation or entrance examinations of Universities. It is very doubtful whether it is in the best interests of the schools that the school-leaving certificate, which will naturally be taken by many pupils who do not intend to proceed to Universities, should be associated with University requirements. If matriculation exemption were gained on a higher certificate of a somewhat less specialized nature than the present one, the school-leaving certificate would not be deflected from fulfilling its true function as a leaving certificate for pupils going out into the world at about the age of sixteen.

The history of modern Secondary schools is shot through with instances of serious interference with

the development of individuals through the examination system. The junior certificate, which used to be taken at the age of 13 or 14—a critical time in the physical development of most girls—has now practically disappeared, and the Secondary schools have to this extent more freedom in that there are four clear years before the first external examination. What is to be the position in Central and Senior schools? Are they to be allowed to profit from the experience of Secondary schools? It must be remembered that many pupils in Central and Senior schools will only have a three years' course; and if there is to be an external examination at the end, the pressure will be felt at an earlier stage than in Secondary schools. It will indeed come, as did the old junior certificate examination, at a time when it can least be borne. It must be remembered, too, that Central schools are intended to give an education with a practical bias; and it is difficult, if not impossible, to give practical activities their right emphasis in an examination. The social side of education, too, is to be emphasized in the new schools; and it is impossible to estimate social progress by examination. Yet the Consultative Committee who reported on *The Education of the Adolescent*, after the most careful consideration of the evidence of witnesses, the majority of whom were stated to be opposed to any external examination, favour the institution of a new examination,

carefully adjusted to the needs and curricula of Central schools.¹ In the words of Norwood this is perhaps "the chief blot in that admirable document."² No doubt in making it the members of the Committee were influenced by the value attached to such certificates by employers. "It seems highly desirable," the Report states, "that pupils from post-primary schools should be enabled when seeking employment to enjoy advantages comparable to those possessed by pupils leaving 'Secondary' Schools at the age of 16 who have passed the First School Examination."³

Whether what is educationally desirable should be modified to suit the values attached to certificates by employers, or whether the employers should be educated to have different values, is a difficult question to decide. It does, however, seem to be premature to recommend the institution of a new examination which may imperil the success of a great experiment in adolescent education *before* any attempts have been made to explain its aims to employers. If their active co-operation were first asked, and if their representatives could be persuaded to serve on the governing bodies or the advisory committees of Central schools, they would soon

¹ Report on *The Education of the Adolescent*, 1926, ch. ix, pp. 150-4.

² C. Norwood, *The English Tradition of Education*, p. 206.

³ Report on *The Education of the Adolescent*, 1926, ch. ix, pp. 151-2.

understand the purpose of the new venture, and would probably modify their requirements for an external leaving certificate. A recommendation from the headmaster or headmistress whose work they had come to know, and whose judgment had won their respect, would in the long run be more acceptable to them than any certificate from an outside examining body. In addition, school records and the results of intelligence tests and vocational guidance tests could be at their disposal; and these are more illuminating in regard to suitability for appointment than an examination success. The presence of employers on the governing body or the advisory committee would be a great help to the school in adjusting itself to the needs of the neighbourhood and in solving the problem of finding suitable employment for its pupils. If, after a period of active co-operation, there were still a demand for an external certificate, the new examination might have to be instituted. But until that contingency arises, educationists should resist the imposition on Central schools of an external examination which would undoubtedly have the effect of stereotyping the curricula and lessening the freedom of the teacher to adapt the work to suit each individual pupil.

Governing Bodies and Advisory Committees.—The constitution of the governing bodies or advisory committees of Central and Senior schools is also a

problem on which the psychological approach is illuminating. It is obvious that a governing body consisting of representative local men and women, who would take a personal interest in the work of a Central or Senior school, would be most valuable to the well-being of the pupils and to the development of the school. The constitution of such a governing body is partly indicated by psychological considerations. For example, the need for the representation of parents will be clearly seen from the consideration of the part which they must necessarily play in the education of their children.¹ The advantage of the close co-operation of employers has also already been recognized. It is equally important that there should be representation of employees, so that the school may be in close touch with local industries and occupations, and so that the general public may learn to understand something of the real objectives of the school. Universities are usually represented on the governing bodies of Secondary schools, and it is equally important that representatives concerned with agriculture, commerce and industry should be found on the governing bodies of Central schools. Industry will never be scientifically managed, nor, indeed, will individuals find, and be fitted for, their true vocations until there is a rapprochement between Industry and Education. The governing body of a Central or Senior school may serve as a meeting

¹ See p. 90-1 and cp. pp. 140-5.

place for industrialists and educationists, and out of their co-operation will come a greater understanding of each other's work, and consequent improvements in the direction of greater realism in education and greater humanitarianism in industry.

NOTES ON FURTHER READING

Professor Findlay's volumes, *The Foundations of Education* (University of London Press, 1925 and 1927), contain useful general discussions of the problem of co-education (Vol. II, Ch. 6), and of the need for the co-operation of parents in the education of their children (Vol. I, Ch. 12, pp. 237-42). A more detailed treatment of the problem of co-education is to be found in B. A. Howard's *The Mixed School* (University of London Press, 1928).

On the general subject of examinations, see the reports of the Consultative Committee of the Board of Education *On Examinations in Secondary Schools* (H.M.S.O., 1911) and on *Psychological Tests of Educable Capacity* (H.M.S.O., 1924). On the special problem of examinations for entrance to secondary schools, the memorandum of the Board of Education on *Examinations for Scholarships and Free Places in Secondary Schools* (H.M.S.O., 1928) will be found to be useful.

anti-social behaviour of such a kind as to bring the adolescent into conflict with the laws of adult society. Juvenile delinquents, who thus become chargeable for offences against the law, are rightly beginning to be regarded as needing curative treatment rather than punishment, re-education rather than reprimand. The psychological study of these delinquents is not only important for the development of more humane and more intelligent methods of treatment of such offenders, but also for the light which it frequently throws on lesser, but more usual, maladjustments. For example, Dr. Cyril Burt's masterly analysis of the causes and kinds of juvenile delinquency¹ is not only of supreme importance to all who have to deal with delinquents; but it is also illuminating to parents and teachers, who may at any moment be called upon to deal with lesser difficulties of adjustment in home or school.

Dr. Burt submitted to exhaustive examination some 200 cases of juvenile delinquency. He recorded the family conditions and history; the individual's physical condition and history; his intelligence, special abilities and disabilities, and school attainments; his temperament and character and the history of the delinquencies committed. In many cases the results of psycho-analysis or other methods of treatment are also indicated in some detail.

¹ C. Burt: *The Young Delinquent*, 1925.

CHAPTER X

SOME PATHOLOGICAL CASES. THE JUVENILE DELINQUENT

ADOLESCENCE is comparable to infancy in respect to the rate of growth and the resulting instability of the individual. On the physical side there is an increased liability to certain disorders and asymmetries: on the emotional side there tend to be similar difficulties of adjustment, due also to the relative suddenness of the changes which occur during the period. In the majority of cases, the processes of sex-awakening and of adjustment to the social and spiritual universes take place relatively easily: there is a period of over-emotionalism followed by a period of withdrawal, and then the new controls appear to function usefully and satisfactorily. Indeed, it is a mistake to suppose that there need be violent upheavals and intense unhappiness on the part of each adolescent; but there will usually be instability, changeableness and a certain kind of waywardness during the period. These are obviously only signs of growth.

In a few cases, however, there will be more serious difficulties of adjustment: and there may even be

anti-social behaviour of such a kind as to bring the adolescent into conflict with the laws of adult society. Juvenile delinquents, who thus become chargeable for offences against the law, are rightly beginning to be regarded as needing curative treatment rather than punishment, re-education rather than reprimand. The psychological study of these delinquents is not only important for the development of more humane and more intelligent methods of treatment of such offenders, but also for the light which it frequently throws on lesser, but more usual, maladjustments. For example, Dr. Cyril Burt's masterly analysis of the causes and kinds of juvenile delinquency¹ is not only of supreme importance to all who have to deal with delinquents; but it is also illuminating to parents and teachers, who may at any moment be called upon to deal with lesser difficulties of adjustment in home or school.

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¹ C. Burt: *The Young Delinquent*, 1925.

Dr. Burt's main conclusion, arrived at from the consideration of both child and adolescent delinquents, suggests a very profitable angle of approach for the understanding of pathological adolescents. He expresses the view that practically all the so-called "crimes," that he was called upon to investigate, were due to failure to control one or more of the primitive appetites or instincts. "The commoner delinquencies committed by the young," he says, "consist essentially, in almost every case, either of the hereditary reactions which constitute the universal human instincts, or else of slightly modified reactions elaborated out of, but still evidently springing from, these aboriginal modes of response."¹

As might have been expected, these delinquencies occur most frequently during the period of greatest instability, more than one half of the cases investigated by Dr. Burt being between the ages of 12 and 15. The new accession of energy to the egoistic impulses, and the appearance or intensification of the sex appetite and the social instincts will naturally mean that the controls previously acquired will no longer be adequate to their task; and new controls must therefore be given time and opportunity to develop before the individual can be held to be a fully responsible member of society.

The most common difficulties of adjustment during adolescence seem to be of two main kinds:

¹ C. Burt: *The Young Delinquent*, 1925, p. 422.

firstly, those due to overt failure to control some primitive impulse, possibly on account of its unusual strength; and secondly, those due to a blocking of the new energy, to repression, and to a consequent arrest of development.

Slight difficulties of adjustment of the first kind are fairly common. The boy or girl given to flirting or to unnatural behaviour in the presence of the other sex is probably experiencing difficulty of control of the new sex interest. Imagine this difficulty increased a hundredfold and the result would be a type of delinquent like Emmeline O. investigated by Dr. Burt.¹ At the age of 13 she was brought to him as being "beyond parental control." She belonged to an outwardly respectable family, but on investigation Dr. Burt discovered evidence of strong sex tendencies both on the mother's and the father's side. According to the mother, although Emmeline was truthful and obedient in all other respects, she would periodically absent herself from home for hours in the evening, and, according to rumour, spend her time in picking up male acquaintances, for choice, coloured men of an oriental race. In physical development she appeared to be about 16, and her mental age was 17 (I.Q. 131). In addition to possessing good general ability, she was specially gifted in singing and elocution.

¹ C. Burt: *The Young Delinquent*, 1925, pp. 429-32.

Dr. Burt's treatment was based on the view that what was needed was not the negation, but opportunities to gain control, of the unusually strong sex impulse. He therefore advised that the girl should be allowed to join hockey and tennis clubs, to take part in amateur dramatics and other artistic pursuits, to make men friends in these activities, and to bring them openly to her house. He also advocated that she should be encouraged to continue her general education, and should be given full sex enlightenment by the family physician. This positive and sympathetic treatment seems to have been successful, for there was no dire catastrophe, and after nine years the girl was found to be a young actress of promise, the sole support of her widowed mother.

The second type of maladjustment is caused by the repression of an appetite or instinct. It does not follow that a primitive impulse ceases to exist when it is denied overt expression : it may continue to work in the subterranean passages of the unconscious mind, thereby influencing thought and conduct indirectly, and perhaps expressing itself symbolically in dreams and day-dreams. For example, the student (M. 21) whose case was considered earlier¹ and who continually imagined herself married and the mother of a large family, did not actually fall in love during adolescence ;

¹ See pp. 69-70, case M. 21.

but her day-dreams revealed the operation of the sex impulse, and perhaps provided for it a kind of safety valve during the period of transition. If her day-dreams had been so much more frequent and persistent that her adjustment to the real world had been jeopardized by them, they would have indicated a serious failure to solve in the open the conflict between the sex impulse and some other opposing impulse, and an avoidance of further conflict by the relegation to the unconscious mind of the sex impulse.

An actual delinquency investigated by Dr. Burt¹ arose in the case of Nellie Malone from just such a cause. Nellie came under Dr. Burt's observation when about 16 years of age, and is one of the cases most completely analysed by him. She was employed as a domestic servant, and, it was alleged, had repeatedly stolen articles, chiefly jewellery, from her mistress. She was said to lie freely and fantastically, not only about the thefts, but also about topics of no discernible importance to her. On analysis, it was discovered that from childhood she had indulged in a series of day-dreams, and that at the time of the thefts her favourite day-dream centred in a proposal of marriage from the Prince of Wales. It was when she was indulging in some such day-dream, in which the hero lavished gifts upon her,

¹ C. Burt: "The Dreams and Daydreams of a Delinquent Girl," *Journal of Experimental Pedagogy*, 1921 (I-IV).

that she appropriated and decked herself in her mistress's jewellery.

Her home conditions were undoubtedly a contributory cause to her unhealthy emotional development. Her father, of whom as a child she was very fond, had disappeared; and her mother's explanation of his disappearance had not been accepted by her, but had given rise to an intense dislike and jealousy of her mother. This thwarting of her love for her father just at the time when it might have mediated in the development and control of sex love, her growing hatred of her mother, and her daily life as a domestic servant in an uncongenial environment were too much for her, and led her to take refuge in what might be described as a flight from reality. Her delinquencies must therefore be regarded as an indirect expression of thwarted emotional tendencies. This case is significant, not only as an example of the effects of repression, but also as an instance of the far-reaching influence of the family circle and the parents' relations to one another, on the emotional development of an unstable child.

The cases of Emmeline O. and Nellie Malone have been chosen for purposes of comparison to show the difference between an overt failure to control, and a repression of, the same impulse. It would, however, be misleading to imply, even by illustrations, that the sex impulse is the only one in the control of

which difficulties arise. Egoistic impulses may also be uncontrolled or repressed. The day-dreams recorded by the groups of students and workers previously considered were of two main kinds, those giving expression to egoistic or ambitious impulses of some kind, and those originating in sex and social impulses.¹ For example, M. 15 not only had romantic reveries in adolescence but also had a frequently recurring day-dream in which he imagined himself an officer in the navy, a very impressive figure in uniform, but "always home on leave." A day-dream of this nature probably has its origin in an unsatisfied instinct of self-assertion, and indicates one of the dangers of such pleasure-thinking, where it is always possible to escape the hard facts of reality and have things both ways, the individual in this case being in naval uniform and yet always home on leave. One of the cases of delinquency investigated by Dr. Burt is an example of this tendency to escape from the problems of adjustment to the real world by expressing the egoistic impulses in an imagined life of adventure.

Stanley Q. was a boy of 12, living in a comfortable suburban villa, who frequently played truant on Wimbledon Common, and slept at night upon area steps. He stole buns and bananas from shops and stalls, and eventually extracted a five-pound note from his uncle's cash-box. When his theft was

¹ See pp. 69-71. Cases M. 21 and C. 21.

discovered, his mumbled explanation was, "I want to go away. I took it to get abroad." He was backward in school and his form master thought him defective. His general intelligence was above normal; his mental age being measured at 13.5 by the Binet tests, and 13 by performance tests. This discrepancy between his ability and his educational attainments suggested that his mental energy was in some way being deflected from his school work: his dreamy look and his solitary wanderings also suggested that he was living some sort of double life. On long continued investigation Dr. Burt eventually discovered that, hour by hour, instead of concentrating on his school work, he was revelling in a glorious never-ending day-dream in which he figured as a hero, a traveller, and an explorer, like his namesake, Stanley. As a prop to his imaginative processes, he made the stall-holders, shop-keepers, policemen, and his unsuspecting relatives play their parts as hostile savages to be raided and, if possible, outwitted by him as hero.

In this case, as in that of Nellie Malone, the family relationships played their part in the development of the maladjustment. The father and mother were quiet, elderly, stay-at-home people with little sense of adventure and little sympathy with a boy like Stanley. The father constantly held up the other two children as models of behaviour, and there

were signs of a secret antagonism between father and son. In short, Stanley was a misfit in the family circle. When he was sent away from home to be coached by a clergyman, whose house was more like a farm than a vicarage, he made nearly five years' educational progress in less than three years; and afterwards he settled down to be trained as a naval cadet. In this, as in so many other cases, correct diagnosis led to successful curative treatment.

It will be generally agreed that within recent years there have been vast improvements in this country in the methods of dealing with young offenders. The institution of separate juvenile courts in 1908, the operation of the First Offenders' Act, the increasing use of probation officers, and the more intelligent handling of the problem by magistrates and reformatory officials, are many-sided indications of a more enlightened public opinion in regard to juvenile delinquency. But even now public opinion has not reached the position justified by the physiological and psychological facts.

In that biting satire on modern civilized society, *Erewhon*, Samuel Butler described a state which treated physical disorder as we treat moral delinquency; and moral defects as we treat physical illnesses. "In that country," he writes, "if a man falls into ill-health, or catches any disorder, or fails bodily in any way before he is seventy years old,

he is tried before a jury of his countrymen, and if convicted is held up to public scorn and sentenced more or less severely as the case may be. There are sub-divisions of illnesses into crimes and misdemeanours as with offences amongst ourselves—a man being punished very heavily for serious illness, while failure of eyes or hearing in one over sixty-five, who has had good health hitherto, is dealt with by fine only, or imprisonment in default of payment. But if a man forges a cheque, or sets his house on fire, or robs with violence from the person, or does any other such things as are criminal in our own country, he is either taken to a hospital and most carefully tended at the public expense, or if he is in good circumstances, he lets it be known to all his friends that he is suffering from a severe fit of immorality, just as we do when we are ill, and they come and visit him with great solicitude, and inquire with interest how it all came about, what symptoms first showed themselves and so forth—questions which he will answer with perfect unreserve ; for bad conduct, though considered no less deplorable than illness with ourselves, and as unquestionably indicating something seriously wrong with the individual who misbehaves, is nevertheless held to be the result of either pre-natal or post-natal misfortune.”¹

Butler's satire certainly makes one doubt the

¹ S. Butler : *Erewhon* (1919 Edition), pp. 94-5.

logic behind not only the Erewhonians' differentiated treatment of moral and physical illness but our own reverse distinction. In any case, whatever may be true of adults, the scientific facts go to show that, at least in regard to children and adolescents, there is no such fundamental distinction between moral delinquency and physical illness. The visiting of the death penalty on Jacobi, a lad of just eighteen years of age who was obviously an "emotional defective," was as irrational a response for a civilized community to make as the punishment of serious physical illness by the Erewhonians. Curative treatment, and not repressive punishment, is the response sanctioned by science and approved by reason to the physical, intellectual and emotional asymmetries of the adolescent, and to the moral delinquencies resulting therefrom.

Such curative treatment can only be successfully undertaken under the guidance of trained experts; for every case is different, and the therapeutic measures adopted should depend on accurate diagnosis just as much if the case is one of emotional defect as if it is one of physical illness. A well-qualified psychologist, preferably one who has also had a medical training, could diagnose each case, advise the magistrates as to the best course to adopt, and supervise the curative treatment to be carried out by parents, probation officers, or teachers. Some progressive authorities, notably London and

Birmingham, have already moved in this direction, and have appointed psychologists to advise them on these and similar problems. The present need for the help of a trained psychologist to solve the problem of the selection of pupils for Secondary, Central, and Senior schools¹ might be met at the same time, at least, by smaller authorities: so that, not only would there be an improvement in the methods of treatment of young offenders, but the same appointment might result in the solution of the many intricate problems of selection and transference which must now be faced, if the reorganization of adolescent education is to be truly effective.

NOTES ON FURTHER READING

Professor G. Stanley Hall devotes two chapters in *Adolescence* (Appleton, 2 vols., 1904) to the consideration of pathological cases, including cases of delinquency (Vol. I, Ch. V). Dr. Cyril Burt's more recent investigations since the appearance and practice of psycho-analysis have resulted in more accurate diagnoses, and consequently in a deeper understanding of the causes of juvenile misdemeanours. See articles by Dr. Burt in *Psyche*, January and April, 1922, on "The Causes and Treatment of Juvenile Delinquency"; in the *British Journal of Medical Psychology*, 1923, on "The Causal Factors of Juvenile Crime"; and in the *Journal of Experimental Pedagogy*, March, June, and December, 1921, on "The Dreams and Daydreams of a Delinquent Girl"; also in *The Young Delinquent* (University of London Press, 1925). In particular, Dr. Burt and other psychologists (see Symposium on Delinquency and Mental Defect, British Psychological Society,

¹ See pp. 109-113.

April 1923) now recognize emotional or temperamental defect, as distinct from intelligence defect, as a cause of delinquencies. Two books that approach the study of adolescence from the medical side, namely Dr. P. Blanchard's *The Care of the Adolescent Girl* (Kegan Paul, 1921) and Dr. C. Stanford Read's *The Struggles of Male Adolescence* (Allen & Unwin, 1928), contain useful studies of adolescent pathology. Mr. J. C. Flügel's *The Psycho-Analytic Study of the Family* (Hogarth Press, 1921) treats of the development of an individual in relation to the family group, and there are chapters (6 and 7) dealing explicitly in this connection with abnormalities of development.

CHAPTER XI

THE PROBLEM OF DISCIPLINE DURING ADOLESCENCE

THE consideration of some of the delinquencies of adolescents has revealed certain principles that are important for the *prevention*, which after all is better than the *cure*, of maladjustments. The accession of energy characteristic of the period may result in a temporary lack of control of some instinct ; and if this occurs, it is no use pretending that the primitive impulse does not exist. The adoption of such an ostrich-like policy may but help to turn a difficulty of control into a repression, a more insidious failure of development. Re-direction, and not negation, is the key to the discipline of adolescents. For example, Stanley Q.¹ might have been helped in the early stages of his maladjustment by the provision of legitimate opportunities for the expression of his love of wandering and of adventure. A freer open-air life, a holiday abroad with understanding parents, or membership of a Boy Scout troupe or a school boys' camp, so that he would have had companions in adventurous explorations and would

¹ See pp. 125-7.

thus have been disciplined by his relationship to a social group, might have saved him from disaster.

The genius of Baden-Powell, now Lord Baden-Powell of Gilwell, led him to realize and to embody in practice the most fundamental principle of good discipline, namely, that the very dynamic impulses, which might cause trouble between young boys and adult society, should be directed and used for their education. What adolescents need is a simpler kind of society in which to learn to control their instincts and to try their powers. Their natural love of adventure, their tendencies to wander, their need to construct and create with their hands as well as with their minds, their instinct of self-display, and their growing social impulses can all find legitimate avenues of expression in the organization of which he is the founder. Instead, then, of the herd instinct expressing itself in the formation of such gangs, as have been troublesome to adult society from time to time, such as the Hell Hounds, the Black Hand League and the Belt and Pistol Club, the names of which are sufficiently indicative of their nature, it has frequently been directed by the Scout Organization into socially useful channels. Not only may there be a negative result—the prevention of outbursts of burglaries and street fights—but there may also be a positive discipline of each individual who becomes a member of a legitimate social group.

The new Central and Senior schools, delivered

from an over-intellectualist tradition, have a marvelous opportunity for embodying in themselves the newer ideals of discipline which have so far been mainly expressed in voluntary organizations. They must start with the recognition of the growing power and independence of adolescents, side by side with their strong social impulses. Whatever may be true of children who, it is sometimes claimed, take kindly to external authority when they are in the habit-forming stage of life, there can be no doubt that with adolescents the only discipline that is appropriate rests on a recognition of their independence and their strong sociability. They need freedom ; but not freedom as conceived of by Rousseau in his description of the education of the boy Emile. Emile was to be brought up alone by a tutor ; he was never to be taught anything until he expressed a wish to learn it ; he was to be free to develop according to Nature. What Rousseau did not realize was that a boy who is denied the companionship of other boys and girls, and who is not provided with opportunities for co-operation and service, is neither free nor being educated for freedom ; for the social side of his nature, which becomes more important in youth, is being consistently repressed. The freedom that is appropriate for adolescents is that kind of social freedom that is possible through membership of a vitally organized group. This may sound a contradiction of terms until it is remembered

that the social instincts are just as much a part of the inheritance of an individual as are the egoistic impulses, and consequently the adolescent can never really grow up until he has learned to co-operate with his fellows.

What, then, is meant by a vitally organized group? Mr. Homer Lane's Little Commonwealth for delinquents is one of the best-known examples of a self-governing juvenile community. On arriving at a farm in Dorsetshire to which they were sent to be re-educated, young boys and girls were given almost complete freedom to govern themselves. They lived as a self-contained community, working on the farm for their living, receiving payment for their work, and shouldering responsibilities for the upkeep of the Commonwealth. If any one of their number did not work, he was a burden to the rest of the community. They made their own laws and administered them. Mr. Homer Lane acted throughout on the belief that, given freedom and social responsibility, even delinquents would learn to control their powerful instincts, and would eventually re-educate themselves. The partial success of his experiment is proof of the value of freedom in education: its partial failure suggests that curative treatment or more guidance by adults is necessary, at least in certain cases. The educators must be real members of the organized group as well as the adolescents: and as such they must play their part

in forming public opinion. Mr. Lane tended to encourage the staff, and to try himself, to remain psychologically outside the group. He realized the tremendous danger that exists when the adult imposes his views on the group and obtains outward obedience, without there being that inner discipline which alone results in the moral improvement of the individual. In order to avoid this danger it does not, however, seem to be necessary that the educator should remain outside the group, but only that the group, including the adult or adults, should be vitally and not mechanically organized.

The Prussian kind of discipline, which results in a school or group appearing to have a regular formation and a military precision of action, is too mechanical for educational purposes. Living children should never be treated as though they are things obeying laws mechanically, and with no power to initiate behaviour on their own. Even if, during childhood, they give exactly what is demanded of them without demur, they would be almost certain to rebel during adolescence; in any case such treatment would not help in the fundamental process of the socializing of the self which should be taking place at this stage. Membership in a vitally organized group, consideration of the moral code accepted by the adult members of the group, and discipline self-imposed through loyalty to the group are what the adolescent needs most of all.

Repressive or excessive authority defeats its own ends; the adult who uses it may obtain outward obedience, but he is put outside the group, and therefore has little influence on its moral evolution, except in the opposite direction of encouraging secret, and possibly more objectionable, expressions of the impulse outwardly prohibited. He is up against the pupils, and his commands, even when outwardly obeyed, have the effect of encouraging a double standard of action, the boys merely waiting their chance to get their own back.

If the group is to be vitally organized, the adult cannot be a military dictator, but only a kind of elder brother, for every member must feel himself or herself to be in some degree responsible for the well-being of the whole. Prefect systems, patrol systems for certain work, organized games, group marks and prizes, form courts and school parliaments are useful devices for helping individuals to feel their social responsibilities. The pity is that a device which is only a part of the group organization is sometimes so successful, that it is mistaken for the life of the group itself and so becomes an impediment to further progress. Instead, therefore, of advocating one such device, which might lead to mechanization, it is far better to start with a clear view of the meaning of discipline as applied to adolescents, and to expect a rich variety of methods of social organization in the new schools, one condition

only being common to all, namely, that each adolescent should feel himself or herself to be a member of a social group, with a duty to each, and all its other members, with something to contribute to its success and with a real responsibility for its good name.

In the matter of discipline the Little Commonwealth had one obvious advantage as compared with an ordinary Secondary school, in that co-operative and purposive work on the farm was the order of the day. In the majority of Secondary schools the best opportunities for co-operation come in games, and the social discipline of co-operative work as contrasted with co-operative play is very largely missed. It is to be hoped that in the new Central and Senior schools the disciplinary value of the handcrafts will be clearly realized from the outset. It has already been pointed out in the consideration of the cases of Stanley Q. and Nellie Malone¹ that one of the most usual maladjustments during adolescence is an excessive tendency to day-dream and a consequent "flight from reality." There is no discipline more effective in correcting this tendency than training in some craft, where there is scope for imagination and yet a constant necessity for translating thought into a material medium, which has its own fixed properties and to which accurate adjustments must be made before it

¹ See pp. 122-6.

can be successfully used. It is not only true that "Satan finds some mischief still for idle hands to do," but that idle hands in adolescence lead an individual down the primrose path of pleasure-thinking to mental and moral inefficiency. The curative value of hand-work was proved conclusively in the recent treatment of shell-shock cases, but the educational significance of this fact does not yet seem to have been fully realized.

Not only is the practice of a craft a corrective for excessive day-dreaming and a preparation for the right use of leisure, but it also provides many unparalleled opportunities for co-operative work. Such opportunities may come in any subject rightly taught (as will be shown in the following Chapter); but the purposiveness of joint work in the production of some beautiful object needed by the school, or in the growth of flowers and vegetables to be used by members of the group, or in the making of cakes and other delicacies to be eaten at the school party, is so self-evident that the dullest members of the group are able to discipline themselves for the fulfilment of the joint aim.

The social training given need not confine itself to the limits of the school group. Adolescents who are learning to practise a craft will desire to make good certain gaps in their homes or in other social groups to which they belong. The war work done by the boys at Oundle brought them into living

relations with the national group, and there is no doubt that there are also needs in peace which can be met by the joint efforts of adolescents. These must be seized as opportunity offers, if the one advantage of the older apprenticeship system is not to be lost, and if the social outlook of adolescents is to be sufficiently broadened.

The problems of the discipline of a group of adolescents cannot be solved without the constant co-operation of their parents. In the consideration of typical cases of delinquency it was shown how misunderstanding by parents or strained emotional relations within the family circle affected adversely the emotional development of children. Whether the professional educator wishes it or not, the fact remains that the home is the chief training ground of the emotions and consequently of character. This is particularly true in the early years, when sentiments are being formed and emotional attitudes are being set; it is also true of adolescence, when new emotions make their appearance and conflicts between loyalties have to be solved. The love of parents and brothers and sisters, the give and take of happy family life, the intimacies only possible in a small natural group, life in an atmosphere of consideration for others, and respect for truth, beauty and goodness, these are what are needed for the education of an individual's emotions.

Was the battle of Waterloo won on the playing

fields of Eton? According to modern psychological investigations, such as those of Flügel,¹ it is far more likely to have been won in the family circles of England. More important battles are being won (or lost) every day in the homes of the people. The struggles for industrial peace are not won (or lost) in Trade Union Congresses, or Employers' Conferences, or in the Houses of Parliament. They are decided in part long before that. If the homes of the rich are educating tyrants who are so spoiled that they are even prevented from socializing themselves during adolescence, and if the homes of the poor are educating rebels against society, then when tyrants and rebels meet, what hope is there of industrial peace?

It is not difficult to understand how disaster can be prepared for in the early years of an individual's life, by his being spoiled and therefore never learning to consider anyone except himself, or by repressive discipline which leads him so to fear and hate one or both parents that his attitude to all authority tends to be rebellious. What is not quite so obvious is that misunderstanding by parents of the emotional changes which take place during adolescence may bring another crop of difficulties in the way of the emotional development of the boy or girl. The mother's failure to recognize the growing need for independence on the part of her boy, or the father's

¹ J. C. Flügel: *The Psycho-Analytic Study of the Family*.

mistake in expecting his son to respond to all the responsibilities of adult life at once, may interfere with the growing-up process. Unhappy relations between the parents may also have far-reaching effects on the children. There are many cases recorded where ill-treatment of the mother by the father has engendered in the mind of the daughter a dislike of men in general, and has therefore robbed her of full emotional development, perhaps even preventing her from marrying. Even when the parents are most conventionally respectable, there is the possibility that their views on sex are so hedged in by primitive taboos that they may fail the awakening adolescent at the crucial moment. Over and over again in the answers to the question on curiosity concerning the facts of life and the sources of its satisfaction (Q. 11), students and workers regretted that they had not been enlightened in regard to sex by their own parents, but had been forced to seek information from their school-fellows, often with disastrous results.

Plato's suggestion, that all children should be taken away from their parents before they have learned to know them, and should be given by the State the exact education suited to their abilities, would not be acceptable to modern psychologists. It is now realized in theory that, though such a system might result in highly trained intelligences, it would also breed emotional cripples. Practice, however,

lags behind theory, and many schools are still run as though parents had very little to do with the education of their children. In the matter of discipline their co-operation is obviously invaluable; and in the new schools it would be well to recognize this from the start, both by encouraging parents to come to discuss their children with the teaching staff when the need arises, and by having parents' meetings and perhaps a parents' committee in connection with each school. A suggestion has recently been made in regard to Secondary schools that parents should send reports of their children to the school, just as the school now sends reports to the parents. Anything that reinforces the view that the education of character is a joint task of parents and teachers is to be encouraged; but personal interviews are much less likely to become perfunctory than written reports. Meetings of parents and teachers for the discussion of the problems of adolescence would be well worth the trouble involved in their organization. A parents' committee, or direct representation of the parents on the governing body or advisory committee of the school, would also be a move in the right direction.

The new schools have new opportunities: they are not yet under the heel of tradition: and if they are staffed with the right kind of teachers, they may not only be instrumental in a great development of adolescent education, but they may also initiate

a new movement for the education of parents. It is surely extraordinary that, while there is training for all forms of professional work, sometimes amounting to four, five, or six years, it is not yet customary for adults to prepare in any way for the responsibilities of parenthood. Perhaps it is supposed that the parental instinct is sufficient in itself, but such a belief is as far from the truth as the theory underlying the platonic system of education. Both rest on a fundamental misunderstanding of the relation between instinct and intelligence in human experience. The mother-instinct is essential but it must not be uninstructed. It provides the motive power which enables the mother to harness her intelligence to the solution of the problems of the upbringing of her children. The father-instinct supplies the urge which enables the father to acquire the knowledge necessary for the fulfilment of his responsibilities. Instinct may drive the father and mother to seek knowledge which will help them to understand their children, but it can never itself be a substitute for the use of intelligence. Impelled by the most powerful of all the instincts, there are many parents who would welcome opportunities for studying the laws of health and of human development, if by that means they could learn to co-operate more effectively in the education of their children. Let the new schools seize their double opportunity to give expression to the growing

powers of adolescents, and to educate the parents by encouraging them to co-operate in the education of their children.

NOTES ON FURTHER READING

The modern movement towards freedom in education, which finds expression in the Montessori method with young children, has its counterpart in experiments with adolescents, such as the Little Commonwealth (see Homer Lane's *Talks to Parents and Teachers* and E. T. Bazeley's *Homer Lane and the Little Commonwealth*, both published by Allen & Unwin), and that under public school conditions described by J. H. Simpson in *An Adventure in Education* (Sidgwick & Jackson, 1917). The complementary nature of this demand for freedom and for the fuller development of corporate life is recognized by Professor Nunn in *Education: its Data and First Principles* (Arnold, 1920), Ch. 15.

CHAPTER XII

METHODS OF TEACHING WITH ADOLESCENTS

ONE of the most hopeful signs of progress in modern education is the widespread interest, and the desire to experiment, in methods of teaching. This urge is being felt in every subject and at every stage of education. It is perhaps felt least in the University world, but there is evidence that even there more attention is beginning to be paid to the psychologizing of methods of lecturing and study. The Montessori method, the Dalton plan, the Play Way in education, Project methods, Direct and Heuristic methods, Individual and Group methods are being discussed on every hand and compared with the older methods of class teaching. There are signs of life in educational practice, but there are also evidences of confusion. Perhaps the best way in which such confusion can be overcome and some light be thrown on the methods most appropriate for adolescents is to judge each in relation to the fundamental nature of human individuality, and more particularly, in this case, to the changes which are characteristic of adolescence. This, of course,

implies an acceptance of the self-evident principle that methods should be psychological rather than logical, starting from the interests, abilities, and knowledge of the learners, rather than the more complete, systematized knowledge which is the heritage of the work, it may be, of countless generations of adults.

One of the most significant characteristics of the adolescent is his or her rapidity of growth, both of body and of mind. It is doubtful whether even physical growth can be explained without the assumption of a power of creation at work within the individual. Vitalistic biologists believe that the hypothesis, that some directive principle making for wholeness is at work in every living organism, is the only one that explains all the facts of growth, regeneration, and reproduction. In the case of the mind there is less room for doubt: there is a power of creation at work: there are dynamic impulses which impel the individual to seek new experiences and adventures in the world of thought, as well as in the physical universe. During adolescence there is an accession of life-energy to the individual which reveals itself in many ways, one of the chief of which is a growing independence of thought and judgment. There is a reinforcement of the individualistic impulses: there are increased powers of thought and feeling, as well as new social adjustments. All the developments characteristic of adolescence are,

as it were, snapshots of a creative and forward leap of life in the individual.

Opportunities for creative and individual work should therefore find an important place in the education of adolescents. There is a place for class teaching, but creative and heuristic methods should be emphasized, and considerable freedom be allowed to the individual in the choice, planning, and execution of his work. Consider, for example, the teaching of a craft like wood-work. Repetitive work to learn the technical processes should not come first if interest is to be maintained. Each boy should be allowed to choose within certain limits what he would like to make, and be taught the technical processes in their relation to his purpose. He may waste more wood, and the finished product may not be so near mechanical perfection as it would have been if he had been drilled in the technical processes first, but he will still be interested and will go on determined to acquire the skill necessary for the fuller expression of his purpose. The educational *process* is still unfolding: and that process is more important than its *product*. Drill methods may be suitable to the pre-adolescent stage, but they are not adjusted to the period of youth which is characterized by marked creativeness and adventurous independence. Boys and girls at this stage will be wonderfully intelligent and painstaking in the attempt to solve a problem or to make

an object of their own choosing. If they really desire to mend a clock or to understand a motor-bicycle, to study a particular character in history or to observe birds, to write a play or to make a bookcase, difficulties will not stand in their way. If they are moved by their own curiosity, their powers of hard thinking and of application will be tremendously increased ; whereas if they are merely told to carry out an experiment, or to translate a piece of prose, their minds are in grave danger of being paralysed by inert ideas.

The writing of a poem or a play, the keeping of a Nature calendar or a private chap-book, the discovery of scientific facts by experiment, the illustration of a book, the making of a frock, a piece of pottery, or an article of furniture to the individual's own design, are instances of individual effort to be encouraged. Opportunities for such encouragement can be seized in every subject if teachers are on the look out for them. In addition, it is a good plan to have at least one afternoon a week when each individual in a school or form can do work of his or her own choosing. Homework should also be so set that there is some possibility of choice in the work to be done, and some opportunity for the planning of the work and the arrangement of the time-table by the individual himself or herself. A modified Dalton plan operating for homework, some systematic classwork in school hours, and the use of individual

methods by each teacher when possible would seem to be the best compromise for the adolescent, who needs opportunities to express his or her individuality as well as the discipline that comes from systematic work.

One other fact should be borne in mind by the teacher, who wishes to utilize the energy of natural interests and to employ adventurous rather than repetitive methods, and that is the adolescent's love of the open air and of wandering. An expedition to see a watershed, a castle, a gas works, or a botanical garden can be used at the appropriate time as a new centre of interest from which individual and creative efforts can radiate. It can also provide an opportunity for the teacher and the group to get to know each other individually. Such personal knowledge is necessary if the educator is to be able to suggest the lines along which original efforts might proceed in any individual case; for the best creative work is seldom done by pupils who have a common assignment of work made to them, but rather by those who are so intimately known to their teacher that the suggestions for work made to each are such as to utilize the full drive of the individual's interests.

Not only do the individualistic impulses receive a great accession of energy during adolescence, but the social instincts are also either awakened or reinforced. There is a greater desire than during

childhood to have team games and group occupations, to go about in gangs and companies. As has been shown, adolescence is pre-eminently the period of adjustments to society.

Group methods are therefore important in the teaching of adolescents as well as individual methods. At first sight it might appear as though this were a contradiction of terms, but the consideration of an example will serve to show that creative and co-operative methods of teaching are complementary rather than contradictory. The production of a play and the representation of a historical tableau are typical examples of group work of educational value. Yet both give opportunities also for original work. The interpretation of each part, the making of each dress, or the production of any single property may be an individual's responsibility, and give him or her scope for creative activity. Yet each individual is creating in the service of a group. The co-operation may be extended to include other groups; for the literature class that is responsible for the play may seek the aid of an art group for the painting of the scenery, and of the physics specialists for the production of lighting effects. The making of the scenery will itself provide opportunities for individual creation and for co-operative effort; and each individual member of each sub-group is inspired to greater efforts by the consciousness that he or she is part of a social group which is engaged

on a bigger task than anything that could have been attempted by an individual.

Adolescents do their best work when they are moved both by individual and social impulses. They revel in team games and group contests. Even work in which the majority of them are not interested will be tackled with spirit, if it can be turned into a team contest. The device adopted by some grammar schools of having a "Latin boat-race" periodically, when leaders are chosen and all the boys who learn Latin are selected by them in rotation to form teams for the Latin tests, has been markedly successful in encouraging revision. It is amazing what trouble a boy appointed to be leader in such a contest will take to ensure that the members of his team are doing the necessary work. He is a harder taskmaster than any member of staff—no excuses are accepted by him—and he is supported by public opinion, so that even the weakest members of his team are influenced to make prodigious efforts not to let their side down.

A good library is indispensable if co-operative methods in the more literary subjects are to be successful. The allotting of different aspects of a topic to different individuals for special study, which is only possible if there is a good library, is one of the most valuable ways of utilizing individual ability in the service of a group, and also of using social tendencies for the discipline of the individual.

A boy who has exceptional artistic gifts and who is asked to look up and to make sketches of a group of people dressed appropriately, and belonging to a particular historical period, will not only learn some history, but by the joy which his talent gives to the group at work on that period he is being trained to regard his gifts in the spirit of stewardship. Another boy who is not at the start particularly interested in the topic assigned to him may yet realize that the work of the group will be spoiled without his contribution, and may therefore make great efforts to complete it.

Much of Sanderson's success at Oundle was due to his realization of the complementary nature of individual and group methods, and of their suitability for adolescents. The Oundle boys had great freedom in regard to occupations and subjects of study. The options in the curriculum were many and varied; the equipment including a farm, a smithy, an engineering shop, and an excellent library, as well as the usual laboratories, gymnasium, and art room; and the staff including a biologist, engineer, and anthropologist, as well as representatives of all the usual subjects of the public school. By having great variety of options Sanderson hoped to find some line of work in which each boy could excel. "We must not cast out our weak ones," he says. "We must find out what kind of work will appeal to each of them. It is our duty so to organize

schools that every boy, weak or strong, shall be able to make full use of his faculties.”¹ Each boy was to have the chance of expressing his individuality, but he was also to be trained to use his powers in the service of a group. The building of an engine, the parts of which were made by individuals; the holding of a science conversazione in which different boys were responsible for setting up and explaining different experiments; the production of a play; and the joint investigation of a many-sided topic like, for example, Egypt, which would naturally include the making of a map, possibly a relief map, and various historical, biblical, archæological, and anthropological researches are examples of the kind of co-operative work encouraged at Oundle. Sanderson realized the value of the social training in such group work. “Work in schools,” he says, “should be conducted for service and not in the ancient spirit of mastery and dominance.”²

However effectively individual and co-operative methods are used there will also need to be some class-teaching in order that time may not be wasted. It is, therefore, important to consider what differences are necessary for classwork with adolescents as compared with children.

It is generally agreed that new intellectual interests tend to make their appearance during

¹ *Sanderson of Oundle*, 1923, Obiter Dicta 2.

² *Ibid.*, Obiter Dicta 5.

adolescence, and that towards the middle of the period thinking becomes more abstract and comprehensive than that previously used. If teaching methods are to be adapted to learning processes, this change in the intellectual life of the adolescent should be reflected in the methods employed in class-teaching. For example, in geometry, after a period of investigational geometry, when inductive methods are mainly employed, there is usually at about thirteen or fourteen years of age an interest in rational, as distinct from empirical, explanations ; and more formal work can be appropriately begun. Similarly in the sciences, although it is necessary to begin from the interests of the pupils and to allow them to investigate problems which are real to them, there comes a stage when constant references to scientific method are much appreciated and when more rigorous thinking is enjoyed.

In his book entitled *Methods with Adolescents*¹ Pringle has worked out in detail the application of the facts of adolescent development to problems of method with reference to the chief academic subjects of the grammar school. Variations in individual development are somewhat veiled, if not ignored, in his treatment ; and consequently no attention is paid to those individual and co-operative methods, which must have an important place in the education of the adolescent if his true nature is to

¹ R. W. Pringle : *Methods with Adolescents*, 1927.

be expressed. But, if Pringle's advice be interpreted as applicable only to class-teaching and not as excluding individual methods, it will be found to be most valuable, particularly to those specialist teachers with whose subjects he deals. Unfortunately he says nothing of the teaching of art, music, and the crafts, although one of these at least must surely form part of the curriculum of all adolescents, if it is to be appropriate to their needs.

The differences in adolescent, as compared with earlier, thinking must be taken into account just as much in the teaching of a craft as in a more academic subject. Consider, for example, the domestic arts, cookery, housecraft and laundry-work. Doubts have frequently been expressed concerning the intellectual respectability of these crafts; and it is becoming a practice in some schools to allow only those girls who fail to make satisfactory progress in academic subjects to take an intensive course in the domestic arts—with most unfortunate results both for the teaching of the subject and the home life of the nation.

It should be clearly realized at the outset that the fact that a subject involves the acquiring of skill is no argument for, or against, its intellectual respectability. One might even admit with Professor Freeman¹ that “the fundamental and basic process in the development of skill is not the higher

¹ F. N. Freeman: *How Children Learn* (1919).

form of thought-analysis" (although this has been called in question by Professor Pear¹), and yet, if the acquiring of a new form of skill introduces the learner to a whole circle of new ideas and perhaps even throws light on the meaning of life itself, it surely must be ranked as intellectually valuable. It all depends on whether the practical work widens the range of the individual's interests, provides problems to be solved, and gives opportunities for relating and reasoning. In regard to the domestic arts this is mainly a question of teaching method. Cookery may be taught so that it is largely imitative and repetitive; but so also might practical Chemistry, if a teacher were unintelligent enough to wish to do it. He might prepare the allotropic modifications of sulphur and tell his pupils to imitate his demonstrations, just as the Cookery teacher sometimes does in regard to the making of a cake: but in neither case would there be much scope given to the increased intellectual powers of intelligent adolescents. The truth is that the methods of teaching the domestic arts in relation to the basic sciences underlying them, thereby giving the learners opportunities for invention, judgment, and reasoning, are still somewhat undeveloped. Even less developed are the ways of relating the domestic arts to the social sciences; and yet the possible cultural value of domestic training can only be assessed

¹ T. H. Pear: *Skill in Work and Play* (1924).

by considering the broad interests to which it might lead, and which would include the understanding of some of the laws of physics, chemistry, biology, and the social sciences, an insight into the problems of the right upbringing of children, the relation of the home to larger social groups, the ordering of a better society, and perhaps even the meaning of life itself. The methods to be adopted for the fulfilment of this broader aim must be worked out by domestic science teachers before the subject can be adapted to, and therefore take its proper place in, adolescent education. The institution of longer courses of training and of degree schemes for intending teachers of domestic science is one step in the right direction, but there will also be need for much pioneer research work on problems of method.

The growing power of intellectual analysis is not the only change characteristic of adolescence which should affect class-teaching methods. The development of the æsthetic emotions and the increase of the powers of appreciation suggest that inspirational methods should also be employed in the teaching of certain subjects. Music, art and poetry, for example, should be taught so that they can be enjoyed. The tendency of most teachers of adolescents is to adapt their methods to the greater power of analytic thought, and to forget that the power of appreciation of beauty of form, rhythm and words is also developing. Methods, therefore, tend to be too analytic—

there are too many explanations—and enjoyment, which is a more immediate process, tends to be disturbed. For example, a poem which is being studied may be hacked to pieces in such a way that joy in the rhythm and appreciation of the flow of meaning may be hindered¹: or a symphony may be so subjected to analysis by the teacher, and there may be so many interruptions for verbal explanations, that barriers may be raised between the minds of the pupils and the mind of the composer.

One of the most striking developments of modern psychology has been the recognition of *unconscious* processes of mind and the increasing understanding of the part which they play in affecting *conscious* processes and determining outward behaviour. Teachers have hardly begun to realize that the education of the æsthetic emotions and of taste is very largely an education of unconscious mental processes. The method of analysis, suitable for studies where conscious processes are emphasized, may therefore fail in lessons of appreciation. There is a need for silence and contemplation, for synthesis as well as analysis, in the study of art, music, poetry, and Nature.

It is in Nature study that the balance between analytic and appreciative methods is so seldom

¹ See O. A. Wheeler: "An Analysis of Literary Appreciation." *British Journal of Psychology*, Vol. XIII, Part 3, Jan. 1923, pp. 229-42.

maintained. The pupils are kept so busy weighing and measuring, naming parts and counting petals, comparing and contrasting specimens of plant and animal life, that few opportunities are given for the appreciation of the beauty of natural objects, or the enjoyment of the creative and continuous unfolding of a living individual. There are even fewer opportunities for the apprehension of the great movement of evolution, as life traverses from generation to generation. Yet

"if all of animated Nature
Be but organic harps diversely framed,
That tremble into song, as o'er them sweeps
Plastic and vast, one intellectual breeze,
At once the soul of each, and God of all,"¹

the concentration on the separate and outward forms will not bring insight and understanding of the "intellectual breeze." The analytic study of the forms will need to be supplemented by some more synthetic apprehension of that which "sweeps o'er them," some immediate enjoyment, it may be, of "the Presence" which disturbed Wordsworth "with the joy of elevated thoughts." It is by the seizing of such opportunities that artists and mystics are educated. For "Art, whether it be painting or sculpture, poetry or music, has no other object than to brush aside the utilitarian symbols, the

¹ Coleridge: *The Eolian Harp*.

conventional and socially accepted generalities, in short, everything that veils reality from us, in order to bring us face to face with reality itself.”¹

It may, however, be argued that there are very few artists and mystics and consequently that their experiences and needs should not affect methods of class teaching with adolescents.

“ God has a few of us whom he whispers in the ear ;

The rest may reason and welcome : ’tis we musicians know.”²

But the statistical facts show that the majority of adolescents, whatever may be true of adults, are potential artists or mystics. The trouble is that they are educated so that the utilitarian symbols occupy their whole minds. They are given constant practice in analytic thought, but little in appreciation. Inspirational methods, based on the understanding of the effect of daily contacts with beauty, the value of silent contemplation, and the use of a crowd in the spread of æsthetic emotions are only beginning to be investigated. Until such problems of method are openly faced, however difficult of solution they may be, the right balance between the analysis and appreciation of life will not be maintained in the minds of the majority of adolescents, and the growth of an adequate philosophy of life will consequently be seriously hindered.

¹ H. Bergson : *Essay on Laughter*, 1913, p. 157.

² Browning : *Abt Vogler*.

NOTES ON FURTHER READING

The New Teaching, edited by John Adams (Hodder & Stoughton, 1918), contains contributions by various specialists on the modern methods of teaching the chief subjects of the secondary-school curriculum. Sir John Adams' contribution on English, Professor Nunn's on Science, and Mr. Keatinge's on History are especially valuable. In my book *Bergson and Education* (Manchester University Press, 1922) I have described the newer methods of teaching—creative (Chapter X), co-operative (Chapter XI), and inspirational (Chapter XII)—and attempted to relate them to some governing philosophical principles. The following books describing experiments in method will be found to be suggestive :

H. Parkhurst : *Education on the Dalton Plan* (Bell, 1922).

Dr. O'Brien Harris : *Towards Freedom—the Howard Plan* (University of London Press, 1923).

H. Caldwell Cook : *The Play Way* (Heinemann, 1917).

F.H. Hayward : *The Lesson in Appreciation* (Macmillan, 1922).

CHAPTER XIII

THE PROBLEM OF THE RELIGIOUS EDUCATION OF THE ADOLESCENT

THE history of British elementary education is shot through with controversies concerning religious instruction. There have been those who have believed that explicit dogmatic instruction in the faith which they hold dear is a necessary part of the education of their children; and, at the other extreme, there have been some who have favoured a secular solution, on the grounds that there should be equality of opportunity for the different religious faiths, and that a school supported by public money should not put any one faith into a privileged position. It will be noticed that the controversies have usually revolved around the *rights of adults*: the rights of members of a church to pass on the truths of which they believe themselves to be the guardians; the rights of parents to have their children brought up in that faith, or that negation of faith, which they hold to be the truth; or the rights of ratepayers. Little attention has been paid to the *rights of children and adolescents* to be allowed to choose and to develop harmoniously their own

religions. Yet it is from this end that the solution of the problem of religious education is most likely to come ; for in the main, the details that divide the Christian Church are of little concern to children and adolescents, whereas the principles that unite religious faiths are of the gravest concern. In tackling the controversial problem of the religious education of the adolescent, the psychologist has this one advantage, that he naturally begins from the right end, namely, from the consideration of the needs and characteristics of adolescents, rather than the static religious beliefs and philosophies of adults.

The more detailed answers to the questions relating to religious experiences in the investigation of adolescents already described may throw some light on this starting-point. Among the two hundred students whose general development during the period has already been considered, there was found great variety of religious training in home, church, and school. Some were brought up strictly ; some were allowed to go their own way ; all ordinary denominations were represented, including Roman Catholics, Jews, Church of England, Church of Scotland, Church of Wales, Congregationalists, Baptists, Methodists of various kinds, English Presbyterians and Swedenborgians, and also atheists. There appeared to be no correlation between the kind of training received and the reality of the

religious experiences enjoyed, although the precise form which the experiences took was apparently influenced by the instruction received, the vocabulary used for their description being probably gained in this connection. The classified results are given below:—

TABLE IV
RELIGIOUS EXPERIENCES (200 Cases)

		Per cent
Q. 5.	Number who record religious experiences	
	(a) in childhood	17 8.5
	(b) in adolescence	123 61.5
	Number who rebelled in adolescence	17 8.5
	Number who were puzzled in adolescence	14 7
	Number who still took things for granted	3 1.5
	Number who gave negative answers	29 14.5
	Number who left question unanswered	14 7
Q. 6.	Number who record "conversion"	57 28.5
Q. 7.	Number who had doubts either at the time of, or after, the new experience	94 47
Q. 11.	Number who record curiosity concerning the facts of life	
	(a) in childhood	48 24
	(b) in adolescence	146 73
	Number who left question unanswered	21 10.5

There are almost as many varieties of religious experiences in this group as there are individuals. There were comparatively few who experienced a sudden conversion; only 57 experienced anything that they were willing to term "a conversion"—

a surprisingly low proportion as compared with the results obtained by Starbuck in America in his investigations of religious experiences¹—and of these very few could be called sudden, like that experienced by W. 5, who went to work in a cotton mill as a half-timer at the age of ten, where, he states, he “saw things done and heard things said that were poison to his mind” . . . and were “a distinct hindrance and curse to his spiritual life.” At the age of seventeen he attended a mission service and heard a sermon on a text remembered and quoted by him. He says: “I stayed to the after meeting for prayer. From that time my whole outlook upon life was changed. I realized an inward peace of mind and a deep sense of happiness. I took a delight and pleasure in all things spiritual. The low trivial things of life became distasteful. I preferred religious services to socials and tea parties. I began to give Sunday School addresses and sermons. We formed a Young Men’s Christian Association. We held prayer meetings, distributed tracts and religious newspapers, held open-air services, visited public-houses and lodging-houses, and gave short talks. I was red-hot for the salvation of the people, and honestly believed that the whole village could be won for Christ and His service.”

The more usual experience was that of a gradual awakening to spiritual values. The men and women

¹ E. D. Starbuck: *The Psychology of Religion*.

who enjoyed this kind of development, together with the group who experienced conversion, number 123; but that number does not exhaust the cases of individuals who were influenced by the spiritual universe. The rebels must also be included. The woman (M. 9) who stated that she "was sickened by the Swanwick (Student Christian Union) Conference" was also making spiritual adjustments: and the same is true of the man (B. 7) who declared "various clerics were put on to me *re* confirmation, which I resisted. One gave me Paley's *Evidences* which I pulled to pieces to my own satisfaction at any rate . . . I despised the converted." Another, and in some ways an even more distracting kind of experience, is that in which the individual is puzzled and tries to be converted, but fails. If these two groups are added to the 123, the number who appear to be affected in one way or another amounts to 164 out of the total of 186 who answered the questions concerned. The generalization that an awakening to the spiritual universe is natural to the period of adolescence can therefore be safely drawn. True the awakening may be a disturbance, as in the case of the rebel; but the disturbance is evidence of some search for the truth, and such cases are to be contrasted with negative cases, where no such interest is indicated. In general, there is in the adolescent an interest in spiritual values, an attraction to Christian ideals, a use of

prayer, and above all a determination to find the meaning of the Universe and his or her own place in the scheme of things.

The ill-effects of undue interference with this natural spiritual awakening are evident in a number of cases. Sometimes the attempts of adults to impose their beliefs on the growing adolescent mind seem to have the effect of encouraging an early enthusiasm, which does not last and which is never woven into the texture of the individual's life. For example, a student (C. 5) reported that his religious training was very strict. He had attended church services twice on Sunday and also gone to Sunday School ever since he could remember: he had also been made to study the Bible regularly. At the age of 10 he had a strong desire to join the Church, and at 13 he made public confession of his faith and became a member. Gradually, however, he dropped the reading of the Bible and the practice of prayer; and although at 14½ he was still a Sunday School teacher, his "religion was a mere sham." Afterwards "doubts and a sort of superior disdain or contempt gradually took hold" of him and still persisted when he answered the questionnaire at the age of 24.

In a more independent type, as in the cases of M. 9 and B. 7,¹ undue interference may evoke definite rebellion and a practical assertion of the right of

¹ See p. 167.

the individual to his own religion. The truth is that a religion or a philosophy that really counts is always individual and organic. It is not imposed from without but grows from within. It must synthesize the individual's own experiences if it is to be really operative in ruling his life and conduct.

Even if there is no open rebellion, there is often a period of doubt and difficulty after the first enthusiasm has died away, when the individual is adjusting his new religious experiences to other aspects of his life. Some 47 per cent. of the student group record such doubts, some being obsessed by them for a period of years. It is significant that the most frequent doubt mentioned by this group concerned evolution and the relation of biological facts to religion. Doubts concerning the inconsistencies of Christians, the truth of the Old Testament, the existence of God, death and war experiences, also occurred fairly frequently, but the conflict between biology and religion seemed to give the most trouble.

This conflict found a blatant expression in the case of M. 1,¹ who probably on its account was prevented from having any real religious experiences during adolescence. "I always had a kind of conflict," he said, "between 'God is love' and 'falling in love.'" The full significance of the frequency of this kind of difficulty is only understood when it is

¹ See p. 73.

viewed in the light of the replies to the question relating to curiosity concerning the facts of life (Q. 11). The great majority (73 per cent. out of 89.5 per cent. who replied) were intensely curious concerning biological facts ; but responsible adults usually failed then at the crucial point. They, however, sought satisfaction in many ways, some very undesirable, such as gossip with school-fellows and secret reading of books not always well chosen. One (M. 14) felt a great curiosity while he attended a grammar school, but, although he had been confirmed, he only obtained positive information "in barracks" during his war service. There is surely something amiss when both parents and educators of adolescents fail to minister to, or to take account of, this curiosity, and when spiritual leaders so tend to sectionize experience into the secular and the sacred, and to keep in separate compartments their biology and their theology, that they fail to give effective help in the solving of the greatest conflict of adolescence.

The psychological facts which have been examined suggest three generalizations which have an important bearing on the problem of the religious education of the adolescent : (1) that in a society like ours the search for a religion is characteristic of the adolescent, and that the spiritual universe makes a direct appeal to him ; (2) that undue influence from adults must be avoided, for the individual's

religion must be his own, it must synthesize his own experiences and be grown from within and not imposed from without ; (3) it must not ignore any section of his experiences if it is to be really operative in controlling his life and conduct.

These principles should determine the approach of the educator to the problem of the religious education of the adolescent. He needs to have less faith in his own partial interpretation of Reality and more faith in the power of the spiritual universe to make its appeal to the adolescent. He should realize that God will continue to reveal Himself in divers ways and in divers places ; and that it is possible that the imposition of his own ready-made views may interpose a barrier between Him and the growing mind of his pupil, whereas the call of the spiritual universe itself is insistent and compelling. It is the second half of this truth that Francis Thompson expresses so unmistakably in *The Hound of Heaven*.

" I fled Him, down the nights and down the days ;
I fled Him, down the arches of the years ;
I fled Him, down the labyrinthine ways
Of my own mind ; and in the mist of tears
I hid from Him, and under running laughter,
Up vistaed hopes I sped ;
And shot, precipitated
Adown Titanic glooms of chasmèd fears,
From those strong Feet that followed, followed after.

But with unhurrying chase,
And unperturbèd pace,
Deliberate speed, majestic instancy
They beat—and a voice beat
More instant than the Feet
'All things betray thee, who betrayest Me.' "

Is the educator then to conclude that he need do nothing and that the compelling power of the spiritual universe justifies him in adopting a policy of *laissez-faire* ? To assume this would be to misunderstand the fundamental laws of individual development and to misinterpret the whole meaning of freedom as applied to religious education. Bodily growth proceeds from within : but the absence of air and of suitable food, and the presence of dirt and darkness may hinder growth. So it is with an individual's religion : he has to grow it himself if it is to fit his case and be effective in controlling his life. True religion is always educational in the sense that it leads out from an individual's deepest experiences. But the conditions for its growth must be provided by those responsible for the educational environment. It will not be enough merely to include biblical instruction in the curriculum. Nothing short of the religious orientation of the whole curriculum and of the life of the home and school provides the right environment. Of what use is it to teach a gospel of love in a period set apart for religious instruction if the whole teaching

of history is shot through with the blasphemy of hate? The teaching of history must contribute something to the adolescent's philosophy of life: it must open his vision to the conditions and needs of man and lead him to understand something of the evolution of man's thoughts and ideals; and if it does this, it will not be contradictory to the gospel of love. Similarly, the life of the school, the personal relations of the staff to one another and to their pupils, and the methods adopted in teaching must exemplify the same principle of fellowship, if the spoken advocacy of that philosophy is not to be cancelled out.

The traditional sectionizing of experience into the secular and the sacred is one of the great difficulties in the way of the development of a religion in the adolescent. Consequently, the theology that he is offered is unreal and other-worldly, and the biology that he is taught (if he is taught any) is materialistic. How parents and educators expect a normal adolescent to begin to develop a satisfying philosophy of life, if the facts of birth and of the creativeness of life are hidden from him, is beyond comprehension. "The heavens declare the glory of God and the firmament showeth His handiwork." If the heavens and the firmament, surely the living creatures, most like Him in their powers of creation and revealing the great evolutionary process, also declare His glory. Yet the curiosity of the adolescent con-

cerning the creativeness of life, which is born of his very kinship with life and its creativeness, instead of being used to further his philosophy is often denied satisfaction. In this way adults erect a barrier between the creative and spiritual forces that are at work in the universe and the mind of the adolescent. They hinder the growth of a philosophy of life by hiding in the darkness of a primitive taboo the facts of birth and creativeness, to which the facts of death and human destiny are undoubtedly related.

" It is the falling acorn buds the tree,
The falling rain that bears the greenery,
The fern plants moulder when the ferns arise.
For there is nothing lives but something dies,
And there is nothing dies but something lives,
Till skies be fugitives,
Till Time, the hidden root of change, updries,
Are Birth and Death unseparable on earth ;
For they are twain yet one, and Death is Birth." ¹

The prejudices of adults thus prevent adolescents from reflecting on some of the most crucial facts of which any philosophy must take account, and perhaps even drive them to obtain such distorted views of the great mystery of life that an irreconcilable conflict between sex and religion is set up in their minds.

What is needed is the removal of such barriers, and the substitution of a curriculum and a method

¹ Francis Thompson : " Ode to the Setting Sun."

of education, which gives opportunities for the growth of an adequate philosophy. The irreducible minimum curriculum described earlier¹ will serve this purpose: and any subject in it may contribute something to this end. Physical training may teach a respect for the body; the practice of a craft may reveal the meaning of creation; the study of Nature may evoke wonder and joy in the products of creation, and a real regard for truth; history and geography may give a vision of the evolutionary process as it affects man, and may show the need for co-operation and fellowship; literature, music, and poetry may reveal the depths of man's spirit; and, last but not least, the life of the school may illustrate a scale of values which will provide the adolescent with a healthy atmosphere in which his own philosophy will grow. Even the teaching methods contribute something. By their emphasis on creation, co-operation, and appreciation, they throw light on the nature of man's mind and indirectly on the nature of Reality itself. Thus not only must all religion be educational, but all education must also be religious.

What place, then, should explicit religious instruction have in the curriculum? The practice of worship in very simple but beautiful form should be an essential part of the life of the school. Not that the pupils should be forced to take part in it, or that

¹ See ch. viii, pp. 94-8.

there should even be much talk about it, for this is one of the cases where the method of appreciation,¹ as contrasted with analysis, is appropriate. Indeed, merely to be a spectator of sincere acts of corporate worship may have a profound influence on the growth of an individual's religion. The practice of silence seems also to be a necessary part of the development of a philosophy of life, and should be encouraged, at least by the provision of a silence room in a school. The study of the Bible and particularly of the New Testament, as a record of the evolution of man's spiritual experiences and of his thoughts of God, should also find a place in the curriculum. Here, as in other subjects, the method adopted should be largely individual, the pupil reading and interpreting for himself, and the teacher being ready to answer questions and to give guidance concerning the sources of further information. In this way, undue influence will be avoided. But however valuable a knowledge of the contents of the Bible may be, it must not be forgotten that the passing of a Scripture examination or of a theological test may mean literally nothing in regard to the training of character, unless the emotions and sentiments of the individual are thereby influenced.

Some spiritual leaders may argue that definite dogmatic and theological instruction should also be given. They have, however, failed to grasp two

¹ See pp. 158-61.

psychological facts : first, that dogmas imposed on an individual and not issuing from his own experience tend to be discarded with contempt at a later stage ; and secondly, that it is the emotions and sentiments of an individual, and not his beliefs, that lie most at the root of his character, and that these are more likely to be educated by the practice of fellowship and worship than by the imposition of fixed theological views. They have also forgotten that the two greatest commandments of the Christian ethic refer not to beliefs or dogmas, but to feelings or sentiments :

“Thou shalt *love* the Lord thy God with all thy heart, and with all thy soul, and with all thy strength.”

“Thou shalt *love* thy neighbour as thyself.”

What need is there to worry adolescents about the theological differences of Christians when the truths that they need are so simple and yet so profound that they “cannot be uttered,” but can only be “lived” ? They were “lived” nearly two thousand years ago on the road between Bethlehem and Calvary : but they have since become so enshrouded in analytic complications that a special vocabulary is now necessary to follow the twists and turns of the attempts at their utterance. It is not these twists and turns of theological explanations but the splendour of the direct vision that is needed to win the allegiance of the adolescent ;

and concerning this there is a measure of agreement in the Christian churches. If Christians concentrated on the "actable" truths, explaining them by their own lives, they would be rendering the best possible service to youth and to their religion: for the adolescent will respond to a living example embodying the Christian ethic, but he will reject the influence of shams, even if they have the most orthodox theological views and speak with the tongues of angels.

NOTES ON FURTHER READING

Dr. R. H. Thouless' *Introduction to the Psychology of Religion* (Cambridge University Press, 1923) is a clear analysis of the different elements which contribute to religious experiences. Although the treatment is elementary, there is no false simplification as there was in E. D. Starbuck's earlier work *The Psychology of Religion* (W. Scott, 1921), which, however, is interesting as a study of adolescent conversions.

On the educational problem, Professor Campagnac's volumes *Converging Paths* and *Religion and Religious Teaching* (Cambridge University Press, 1916 and 1918) are suggestive and are also charmingly written; and Dr. L. P. Jacks' statements of the case for indirect, as opposed to direct, religious instruction in "Education and Religion," the first essay in *A Living Universe* (Hodder & Stoughton, 1923) and in the Report of the Conference on New Ideals in Education held at Oxford in 1916, show a deep insight into the psychology of religion.

CHAPTER XIV

VOCATIONAL GUIDANCE AND THE ADOLESCENT

SUPPOSE that a generation of adolescents were educated so that their full creative powers were expressed, their social tendencies were developed, and their working philosophies were adequate, would it follow that industrial unrest would disappear from among them as if by magic ? No doubt, as has been already shown, some of the existing industrial unrest is due to repression and to inadequate education both of masters and men : but even if the school training were exactly adapted to the powers and needs of each individual, and parents co-operated with teachers, there would still be industrial unrest if the employment obtained after leaving school did not fit individual abilities. In the agricultural, commercial and industrial, as well as in the professional, worlds, there are too many square pegs in round holes, and round pegs in square holes, and from these misfits friction is bound to arise. It will therefore be seen that when all the *educational* problems of the reorganization of adolescent education are solved, there will still remain the problem of the choice of a vocation

suitable for each individual. Vocational guidance, as well as appropriate education, will be necessary.

Recent developments in vocational psychology will therefore not be without interest to those who are concerned with the reorganization of adolescent education. Vocational psychology aims at discovering and measuring by scientific means those varying qualities of mind that make different individuals suited to different occupations. It endeavours by scientific experiment to choose the best individual for any given occupation (this is usually termed vocational selection); and it seeks to find the most suitable occupation for any given individual (this has come to be known as vocational guidance). Although vocational selection and vocational guidance experiments are obviously closely related, it will be the second line of work that will be of most direct significance to educators of adolescents.

The extensive use of intelligence tests has shown that there is a great range of general ability among boys and girls of the same age group. Even if imbeciles and mentally defectives are excluded, the range of variation extends from an intelligence quotient of about 70 to over 150. Now it is obvious that the same occupation is not suited to an individual with an intelligence quotient of 70 and to an individual with an intelligence quotient of 140; and attempts have therefore recently been made to classify occupations according to the degree of

intelligence that they require for their successful performance. Dr. Burt,¹ for example, using the data collected by the American War Department, the British Civil Service examinations, and the National Institute of Industrial Psychology, classifies adults into eight groups corresponding with the grade of their vocational work. His chief conclusions are given in a tabulated form below :

Intelligence Quotient.	Vocational Category.
1. Over 150 . . .	Highest professional.
2. 130-150 . . .	Lower professional and higher clerical.
3. 115-130 . . .	Clerical and highly skilled labour.
4. 100-115 . . .	Skilled labour and minor commercial.
5. 85-100 . . .	Semi-skilled labour.
6. 70-85 . . .	Unskilled labour.
7. 50-70 . . .	Casual labour of the poorer types.
8. Below 50 . . .	None—institutional cases.

The chances of successful work would certainly be increased if individuals could be guided into occupations suited to their *general* intelligence. It is obvious, however, that other qualities than innate intelligence, such as, for example, physical powers, special abilities and temperamental qualities, would need to be taken into account before efficient guidance could be given. Direct experiments in vocational guidance have therefore recently been undertaken by the Industrial Fatigue Research

¹ C. Burt : "The Principles of Vocational Guidance." *British Journal of Psychology*, April 1924.

Board and the National Institute of Industrial Psychology.

One of the most illuminating of these investigations was that undertaken under the general direction of Dr. Burt and with the co-operation of the London County Council, the results of which have been published in *A Study in Vocational Guidance*.¹ A group of one hundred London school children from three selected elementary schools were subjected to detailed examination. Their home conditions, the results of medical inspections and their school records were ascertained; and their general intelligence was measured both by the use of the Binet-Simon scale and by the use of performance tests. They were also tested for educational attainments and for certain special capacities, such as mechanical ability and imagination. Some attempt was also made by personal interview to assess emotional, moral and social qualities. As a result of the examination, the parents or guardians were advised in each case as to the kind of work for which the individual was most suitable; and it was stated in the letter conveying this information that the letter could be used as a recommendation if desired. The after-careers of the children were followed up, and after some years an attempt was made to find out whether

¹ Report No. 33, Industrial Fatigue Research Board, H.M.S.O., 1926.

the individuals were satisfied with, and were giving satisfaction in, their various occupations. The results were summarized in the following words: "Of those who obtained the work advised, all (with one doubtful exception) are satisfied, at any rate with the work itself. Of those who obtained work dissimilar to what was advised, more than one half are dissatisfied either with the work that they are doing or with the prospects open to them."¹

The number of children investigated was too small to justify many conclusions, but so far the results indicate the supreme importance of innate intelligence in determining the vocation of individuals. The worst misfits are found where dull children or adults are placed in responsible positions too difficult for them to fill, or where bright and ambitious individuals are driven into monotonous work which gives them little scope for the expression of their native abilities.

In the near future, when similar experiments have been carried through on a larger scale and when more complete information has been accumulated concerning the psychological requirements for different occupations by the Industrial Fatigue Research Board and similar national research bodies, fairly accurate vocational guidance will be possible in any locality which has the services of a qualified psychologist. It has already been suggested

¹ Report No. 33, Industrial Fatigue Research Board, p. 97.

that the problem of the selection of pupils for the various types of secondary education now contemplated, and also the problem of the right treatment of juvenile delinquents, can only be solved by the help of trained psychologists.¹ If a psychologist with educational experience were appointed by a local education authority to act in an advisory capacity on these questions, he or she might do much to help in the solution of this remaining problem of vocational guidance. Indeed, the measurements of intelligence taken at 11 or 12 years of age, together with the intervening Grammar, Central or Senior school records, and certain other tests given during the last year or two of school life, would provide the data on which effective vocational guidance could be given. In certain cases some definite vocational preparation might be arranged in the last year of a four years' course, the craft forming part of the minimum curriculum or the additional subjects being chosen with that end in view. The record of the pupil's success or failure in this direction, and his views on his own suitability for the work, would also be illuminating to the watching psychologist, and would give him or her further grounds on which to base advice for the future.

The co-operation of parents, teachers and employers is essential for the successful working of

¹ See ch. ix, pp. 110-1 and ch. x, pp. 129-30.

any such scheme of vocational guidance. The constitution of the governing body of a Central or Senior school in any locality should be settled with this end in view. Not only should parents be directly represented, but those local industries which the school would wish to serve should also be represented on the committee both by employers and employed.¹ The confidence of employers must be secured if the recommendations of the head teachers and the psychologist are to be of any avail in securing employment for outgoing pupils: and this can only be done by their having constant opportunities for understanding the work and ideals of the school, and for verifying the practical value of the psychological observations made of the pupils. With this open co-operation, the scientific estimates of each individual made by the psychologist and the teachers would be readily accepted by employers, in lieu of school-leaving or even matriculation certificates. Before long it would be realized that they are more valuable for vocational purposes, for they are equally objective and are more relevant than external examinations. In this way, the new forms of secondary education may yet be saved from that mechanization and petrification that comes from fear of examination bogies.²

¹ See ch. ix, pp. 115-16.

² See also ch. ix, pp. 112-16.

NOTES ON FURTHER READING

The most important publications of the Industrial Fatigue Research Board concerning experiments on vocational guidance and selection are Report No. 18, by B. Muscio and E. Farmer, *Three Studies in Vocational Selection* (1922), Report No. 31, by Frances Gaw, *Performance Tests of Intelligence* (1925), and Report No. 33, by various authors working under the direction of Dr. Cyril Burt, *A Study in Vocational Guidance* (1926); and of the National Institute of Industrial Psychology, *Report on Vocational Guidance Experiments* (1926) and *Report on Job Analysis* (1927). Report No. 12 of the Industrial Fatigue Research Board is a *Review of the Literature* concerning vocational guidance by B. Muscio; and H. L. Hollingworth's *Vocational Psychology* (Appleton, 1917) is a useful survey of the whole field of inquiry. Mr. Angus Macrae, head of the Vocational Guidance Department of the National Institute of Industrial Psychology, has also published an introduction to modern methods of vocational guidance, based on his own practical experience, under the title *Talents and Temperaments* (Nisbet, 1932).

CHAPTER XV

THE TRAINING OF THE TEACHER OF ADOLESCENTS

THE reorganization of adolescent education will necessitate the training of more teachers specially qualified to deal with adolescents. The new Central and Senior schools will at first be partly staffed by experienced teachers who have already served in existing elementary or secondary schools, and who are genuinely interested in the problems of the reorganization of adolescent education. But even if fewer additional teachers will be required than had previously been calculated when it was thought that the school-leaving age would be raised to fifteen, it will be necessary in the near future to train a considerable number of teachers for work in the new Central and Senior schools; and for this purpose a modified form of training may need to be evolved. The spirit in which the problem of the training of these new entrants to the profession is undertaken, and the kind of training that they will receive, will be one of the most important factors in determining the success or failure of the new venture in adolescent education.

In the past, the training of secondary school teachers has been in the hands of university training departments and one-year post-graduate training colleges; and the training of elementary and infant school teachers has been largely, though not entirely, in the hands of two-year training colleges. The first question that naturally arises in the consideration of the training of the new teachers for Central and Senior schools is therefore—should their training approximate to the four-years' course and consist of study for a degree followed by professional training, or is the ideal form of training for them nearer to the two-year training college course?

Any fair-minded observer of the usual methods of training employed by university training departments and by two-year residential training colleges will admit that the advantages and disadvantages are not all on one side, and it is possible that their consideration might suggest modifications in both methods of training which would make them more suitable for intending teachers in Central and Senior schools. The three-years' degree course pursued by university-trained students, before the one year devoted to professional training, tends to give them some depth of knowledge concerning at least one subject of study, and a real standard of scholarship. The fact that they have been able to choose the subjects in which they have specialized and that they have consistently pursued them for three years

will mean, in the majority of cases, that independent and original thinking will be possible to them at least along one line, and that they will leave the university intending, and able, to continue their studies in this direction. Their contact with prospective members of other professions—medicine, law, divinity, engineering and journalism, for example—will have given them some understanding of a wider world than the teaching profession, and their university life in general will have made for breadth of outlook and fullness of life. In the fourth year devoted to professional training they attempt to acquire the technique of teaching and a philosophy of education; but their approach still naturally tends to emphasize “ideas,” the basic sciences and the philosophical principles that underlie education, rather than the practice of the art.

The training given in the two-year training college, on the other hand, is largely vocational and practical. The technique of teaching is emphasized, and the whole curriculum is organized round the practical work. Residence in an institution devoted entirely to preparation for the one profession and concentration on the vocational aspect of education may induce an enthusiasm for the work of teaching, which would not find many parallels among university students whose education happened to be broader. Probably the training-college student will appear after the two-years’ course to be a better

practical teacher than the university student of equal ability; but the position will be reversed after a few years' experience, for whereas the training college student has concentrated on the acquiring of technical skill, he has not the same knowledge of educational principles, nor the same background for improving his skill through reflective thought on his own experiences, as has the university-trained student.

If it be conceded that the method of the training college is more appropriate for the training of teachers for work in infant and junior schools, it yet remains true that, for dealing with adolescents, something of the university outlook and breadth of vision does seem to be desirable. The need for more extensive knowledge and a higher standard of scholarship on the part of the teacher of adolescents, as compared with the teacher of younger children, is self-evident in the light of the facts of adolescent development. The vitalizing influence of ideas is peculiarly appropriate to the rebirth which occurs at this period. The methods of teaching that are most appropriate are not such as are likely to be gained by concentration on technique during training, and the repetition afterwards of devices acquired during that period. Indeed, the teacher of adolescents should have a developing, rather than a finished, technique, a willingness to study individuals and a power of adjusting methods to them in the light of general and carefully considered

educational principles, rather than a habit of using rule-of-thumb methods, however efficient these may be in themselves. He should also have a knowledge of the world and an understanding of adults, so that his co-operation with parents and employers may be successful, and the school which he serves take its proper place in relation to the outside community. He must have a scale of values or a philosophy of life, as well as an enthusiasm for his profession, if he is to take his proper share in developing the social and spiritual life of the school, which is undoubtedly the most important influence in the education of adolescents. In short, the kind of training appropriate for intending teachers in Central and Senior schools is nearer that usual in universities than in two-year training colleges, but with some outstanding differences.

In the first place, the degree course must not be so specialized as that appropriate for work in Grammar schools. A general honours or a good pass degree, in which several subjects found in the irreducible minimum of the adolescent curriculum would figure, would be a useful preliminary; such as, for example, combinations of English, History and Music; English, Welsh or French and Music; and, for work in rural areas, Zoology, Botany and Chemistry. One difficulty about some universities in respect to the training of Central and Senior school teachers is that they offer few art,

craft and technology combinations. But this is not true of all modern universities. There are some in which degree schemes are possible in technology, engineering, domestic science and music: and students pursuing such courses who have a real desire to teach and some aptitude for it would be useful recruits to the professional training year, and eventually to the teaching profession. For such university courses, entrants would be chosen as much for their social qualities and powers of leadership as for their general intelligence and educational attainments.

The post-graduate course of professional training would also need to be somewhat different from that usually regarded as appropriate for work in existing secondary schools. There must be more emphasis on practical activities and on the social side of education, and more consideration of vocational problems. For example, the institution in this College of a course of training for work in Central and Senior schools has necessitated the addition of courses in gardening and other crafts, and in the teaching of music; and the modification of the examination syllabus to allow of the substitution for a History of Education course, which used to constitute about one quarter of the theoretical work, by a short course in the History of Education together with any two of the following more practical subjects—Experimental Psychology, Drawing and Handcrafts, Needlework and Hand-

work, Music, Physical Education and Gardening. On the practical teaching side the training is also modified, experience in teaching being given in elementary, central schools, "upper tops" and the lower forms of secondary schools: and visits being arranged to a juvenile employment exchange, an industrial school, a technical school, a central school and an "upper top" in connection with the special study made of adolescence. The students are also introduced to the Boy Scout and Girl Guide organizations, and, if possible, to the Workers' Educational Association movement. They are themselves organized into tutorial groups which meet regularly for the discussion of papers on educational problems contributed by different individuals, so that they learn by their own experience, as well as by academic discussions, the possibilities of individual and group work. They manage their own societies and athletic clubs, and they are given the opportunity of learning to camp during the long vacation.

There will be some degree of specialization and therefore many varieties of teachers necessary in the new schools. A post-graduate course of professional training should therefore be so organized as to allow of options within the practical subjects and the special method courses, to suit individual attainments and interests. For example, a graduate in Botany, Zoology and Mathematics

who happened to be a good athlete and who wished to prepare for work in a rural central school would be advised to take Theory of Education (including Educational Psychology and especially the Psychology of Adolescence); the Physical Education of School Children, School Hygiene, and School Organization with special reference to Central schools; Special Methods of Teaching English, Arithmetic and Mathematics, and Nature Study; and two appropriate practical activities, such as Gardening and Physical Training. She would have experience in teaching her own special subjects, including Gardening and Games, and would be under the care of a tutor who would supervise her practical teaching and encourage her to work out her views by the writing of essays and the preparation of contributions to the group discussions. Another, who graduated in English, History and Welsh (or French) and who was artistic, might take the special methods of teaching English, History and Welsh (or French), and the practical subjects Needlework, Drawing and Handcrafts, which would be most useful in the teaching of her degree subjects and particularly in the employment of dramatic methods in her work. A third, who showed a special interest in the psychological approach to the study of education, might take the alternative course in Experimental Psychology and thus prepare for helping in the solution of problems of vocational guidance.

The number of additional teachers that will eventually be necessary to give effect to the plans for reorganization will probably be such that the universities as at present constituted will not be able to meet the need. The two-year training colleges, the domestic science and physical training colleges will have to supply their quota; and the co-operation of technical colleges would also seem to be desirable. A great variety of teachers will be necessary, and variety in their training will not be a disadvantage to the working of the whole scheme: but care will need to be taken to safeguard the genuine *post-primary* functions of the Central and Senior schools by the method of training of the new teachers. A third year in a training college for advanced work would be most useful; and co-operation between training colleges, technical institutions and the university in an area should be encouraged to meet this special need. Refresher courses for acting teachers who are going to be transferred to the new work should also be organized in the subjects of the school curriculum, and for the discussion of the problems of reorganization.

In all these training courses, whether conducted by universities or not, it should be remembered that the worth of the teacher of adolescents will depend in the long run mainly on the width of his intellectual and social sympathies, and his power to develop his technique after leaving college. His equipment in

art and scholarship gained through his training course will merely provide a foundation for methods of investigation which should occupy him all his life ; for his function can never be non-critical and repetitive. He has to be scientist, philosopher and artist. As scientist, he must be trained to observe and to interpret the behaviour of individuals, and to understand the laws of human development. As philosopher, he must take hold of the achievement of the past and select from it what is most central and significant, and try to communicate that. He must be possessed of a scheme of values which is essentially his own, arrived at by persistent and unprejudiced thinking, or by the high union of thought and emotion which we usually call religion. He need not be a profound analytic thinker, but rather an artist with that more immediate and direct insight into the meaning of life that comes from the grasping of the process of creative evolution. The analytic thinker, whether he be theologian, scientist or philosopher, might fail to influence adolescents, for the twists and turns and intricacies of his mind seem to necessitate the use of a special vocabulary for their expression, and consequently for their apprehension : but the artist will succeed in communicating his vision of life, for it is direct and simple, and yet crowns and completes the findings of analytic thinkers.

NOTES ON FURTHER READING

In regard to the whole problem of the training of teachers see the report of the departmental committee on *The Training of Teachers for Public Elementary Schools* (H.M.S.O., 1925). The more recent report of the departmental committee on *The Training of Rural Teachers* (H.M.S.O., 1929) has certain references to the new problem that will arise from the reorganization of adolescent education ; and the report on *Music, Arts and Crafts and Drama in Training Colleges* (H.M.S.O., 1928) is likely to be a useful preliminary to the broader inquiry that will soon be necessary concerning the problem of the training of teachers for work in Central and Senior schools.

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